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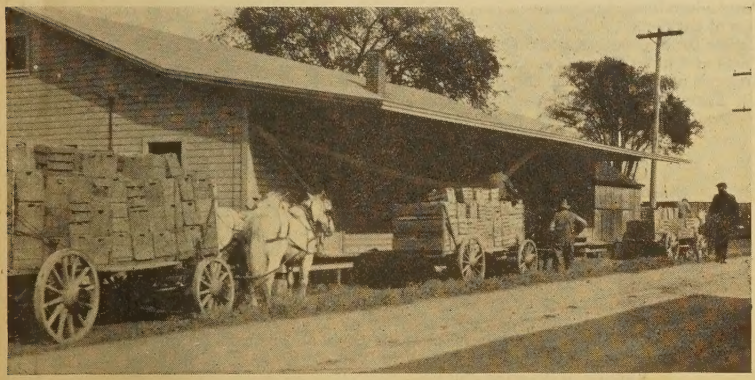
An Economic Study of the Marketing of New York Potatoes

M. P. Rasmussen



WAGONLOADS OF POTATOES IN BUSHEL CRATES, WAITING TO BE UNLOADED AT A WESTERN NEW YORK SHIPPING POINT

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An Economic Study of the Marketing of New York State Potatoes

A THESIS

Presented to the
Faculty of the Graduate School of Cornell University
in Partial Fulfillment of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

by

MYERS PETER RASMUSSEN

1924

3781
C81R

AN ECONOMIC STUDY OF THE MARKETING OF NEW YORK POTATOES[1]

M. P. Rasmussen

The margins taken by the various middlemen in all branches of marketing have been much discussed. A great deal of this discussion has been without a clear understanding either of the size of the margin or of the services rendered in return. The purpose of this study was to ascertain these facts in the hope of establishing a fair conception of the necessary costs and services involved in the handling of potatoes at country shipping points and in transporting them to terminal markets.

Studies of several thousand farm businesses in New York have shown that certain farmers are able to raise a bushel of potatoes or produce a can of milk with less labor and at less cost than others. Farm-management studies have analyzed the business methods and practices that have made these differences possible. The results of such studies have enabled farmers to learn both the strong and the weak points of their business and to strengthen those in which better methods have been worked out by others. It was assumed that as great variations in efficiency prevailed in the marketing as in the production of farm products. Therefore, in this study an effort has been made to find some of the factors which affect efficiency in the marketing of potatoes.

Farmers are taking greater interest in the marketing of their products than ever before. Many have had to learn the facts by costly experience. A study of representative potato-marketing agencies may serve as a guide to any organization, farmer-owned or other, which seeks to engage in this field of work, or which, being already engaged, seeks to make its operation more efficient.

Author's acknowledgments. The investigation herein reported was conducted under the direction of Professors G. F. Warren and C. E. Ladd, and in cooperation with the Bureau of Agricultural Economics, United States Department of Agriculture.

For the season 1921–22, the following potato-shipping organizations or dealers in New York State cooperated in furnishing data: Avoca Cooperative Association, Inc., Avoca; Fremont Cooperative Association, Inc., Hornell; Gainesville Potato Growers' Cooperative Association, Inc., Gainesville; Prattsburg Cooperative Association, Inc., Prattsburg; Saranac Farmers' Cooperative Association, Inc., Cadyville; Steuben Central Cooperative Association, Inc., Wallace; Wayland Cooperative Association, Inc., Wayland; Cheeseman-Munsil Co., Ellenburg Station; F. A. Clark and Son, Brushton; H. I. Doud and Co., Chateaugay; T. B. Humphrey, Churubusco; B. Weirmiller, Wayland; A. Yando, Burke; L. A. Chapin, North Bangor; Oliver and Spellman, Chateaugay; W. W. Capron, Wayland; Datus Clark and Son, Peru; J. H. Colegrove and Son, Canaseraga; Dean, Lee, and Co., Bath; L. S. Gelser and Son, Fillmore; Gledhill and Putnam, Inc., Avoca; Grover and Schultheis, Hornell; Kinkaid Produce Co., Cohocton; and Rowe and Kennedy, Canaseraga.

During the season 1922–23, the following potato-shipping organizations or dealers in New York State furnished data: All of the 1921–22 shipping organizations and dealers with the exception of A. Yando, L. A. Chapin, and J. H. Colegrove and Son; and, in addition, the following: Peru Potato Growers' Cooperative Association, Inc., Peru; Atlanta Cooperative Association, Inc., Atlanta; Rogersville Potato Growers' Cooperative Association, Inc., South Dansville; Wellsville Potato Growers' Cooperative Association, Inc., Wellsville; Willing Producers' Cooperative Association, Inc., Willing; W. G. Bostwick, Candor; DeWitt and Tucker, Skaneateles; H. H. Graham, Beaver Dams; Frank McLean, Cohocton; Fred Litchard, Wellsville; W. W. Finney, Peru; C. S. Mead and Co., Moravia; and W. E. Otto and Co., Atlanta.

Dr. W. I. Myers gave constructive and valuable criticism. Mr. A. V. Swarthout, of the Bureau of Agricultural Economics, United States Department of Agriculture, contributed helpful information and suggestions.

To these and to many others who have given valuable assistance, the writer is greatly indebted.

[1]Also presented to the Faculty of the Graduate School of Cornell University, September, 1924, as a major thesis in partial fulfillment of the requirements for the degree of doctor of philosophy.

METHODS OF STUDY

Detailed records were obtained by going to private potato-marketing agencies and farmers' cooperative potato-marketing organizations at country points in western and northern New York. While most of these agencies had their headquarters in the counties of Steuben, Allegany, Livingston, Wyoming, Franklin, and Clinton, the operations of many of the larger dealers extended into Cattaraugus, Erie, Genesee, Monroe, Wayne, Ontario, Yates, Schuyler, Chemung, Tompkins, Tioga, Broome, Otsego, Cayuga, and Seneca Counties. Several dealers carried on operations in Potter County, Pennsylvania, also. In every case access was freely granted to the books of the organization or the shipper, and car-lot records, as well as detailed costs of operation, were obtained. Twenty-four records were obtained covering the 1921–22 shipping season, and thirty-four records for the 1922–23 season. This study did not include the Long Island area. The number of records obtained, and the types and approximate locations of the shipping agencies, are shown in table 1:

TABLE 1. NUMBER OF RECORDS OBTAINED, AND TYPE AND LOCATION OF SHIPPING AGENCY, SEASONS 1921–22 AND 1922–23

Type of agency *	1921–22				1922–23			
	Number of records obtained			Number of loading stations	Number of records obtained			Number of loading stations
	Western New York	Northern New York	Total		Western New York	Northern New York	Total	
Farmers' cooperative associations	6	1	7	7	10	2	12	12
Single-station dealers	1	7	8	8	5	5	10	10
Many-station dealers	8	1	9	203	10	2	12	202
Total	15	9	24	218	25	9	34	224

* The types of agencies are defined on page 5.

TABLE 2. VOLUME OF POTATOES COVERED BY THIS STUDY, SEASONS 1921–22 AND 1922–23

Type of agency	1921–22			1922–23		
	Bushels shipped	Per cent of total	Approximate number of carloads of 600 bushels	Bushels shipped	Per cent of total	Approximate number of carloads of 600 bushels
Farmers' cooperative associations	423,992	12.1	706	468,906	16.9	781
Single-station dealers	420,813	11.9	702	357,961	12.9	595
Many-station dealers	2,671,957	76.0	4,453	1,949,179	70.2	3,247
Total	3,516,762	.....	5,861	2,776,046	.....	4,623
Approximate per cent of all upstate potatoes shipped in carloads during the season		41.49			38.4	
Approximate per cent of total production of State for the season		10.3			7.4	

Data were obtained on approximately 41 per cent of the up-state potatoes shipped in carload lots during the 1921–22 season, and on approximately 38 per cent of those shipped during the 1922–23 season. For the 1921–22 season, the data covered about 10 per cent of the estimated total production of the State; for the 1922–23 season, about 7 per cent. (Table 2)

The shipping points covered by this study are shown in figures 1 and 2. The data cover shipments from 152 stations for the 1921–22 season, and from 151 stations for the 1922–23 season.

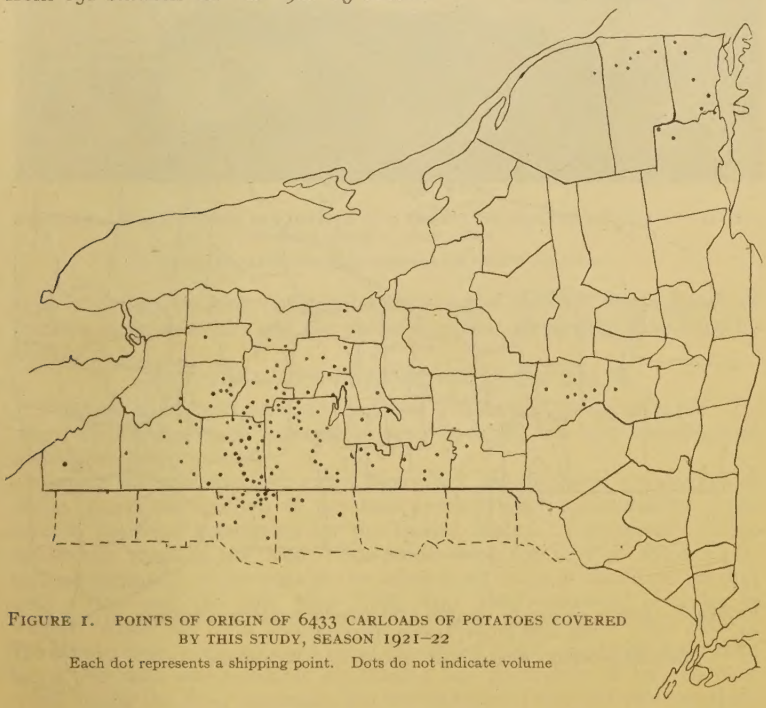


FIGURE 1. POINTS OF ORIGIN OF 6433 CARLOADS OF POTATOES COVERED BY THIS STUDY, SEASON 1921–22

Each dot represents a shipping point. Dots do not indicate volume

AGENCIES FOR RENDERING NECESSARY SERVICES

The types of agencies for receiving and shipping potatoes, which operated in the areas studied during the seasons 1921–22 and 1922–23, included six fairly distinct groups, all of which competed directly with one another at some shipping points. These types were:

(a) Farmers' cooperative associations.

(b) Private dealers loading at one station only, and designated in this study as "single-station dealers."

(c) Private dealers loading at from five to fifty different stations, but with main offices in the producing area, designated in this study as "many-station dealers."

(d) City wholesale houses or line houses which maintained loading stations in the producing area.

(e) Chain stores which maintained at least one loading station and buying office in the producing area.

(f) The intermittent, or "fly-by-night," private dealer, who bought potatoes only occasionally, who did not maintain an office, who did only a car-door business, and who loaded only when and where an opportunity for profit seemed certain.

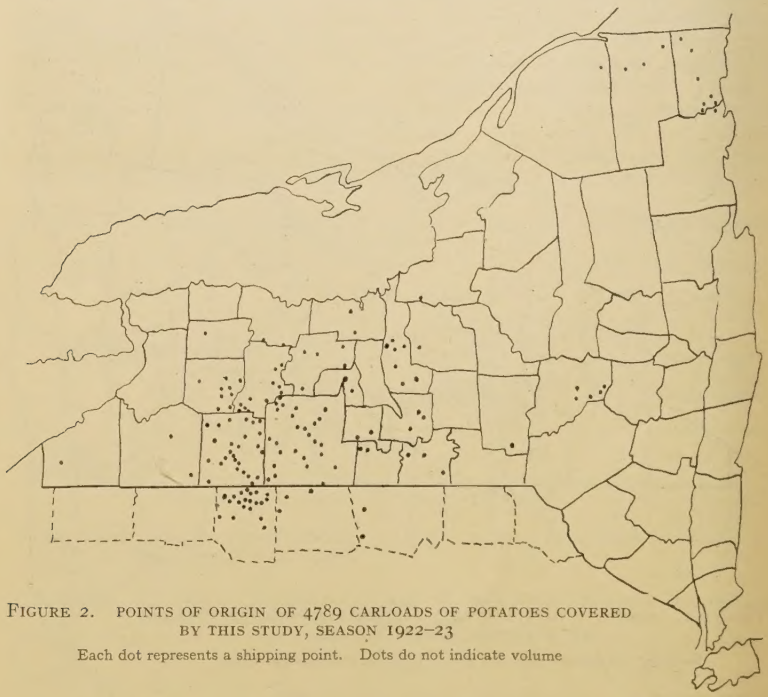


FIGURE 2. POINTS OF ORIGIN OF 4789 CARLOADS OF POTATOES COVERED BY THIS STUDY, SEASON 1922–23

Each dot represents a shipping point. Dots do not indicate volume

It should not be inferred that all of these agencies existed at every shipping point in the areas studied. At many points there were only two or three of these agencies, at some points there were as many as six (figure 3).

The agencies that were studied in detail were farmers' cooperative associations, single-station dealers, and many-station dealers with main offices in the potato-producing area. There were only two line houses and one chain store operating loading stations in the area studied, and the main offices of these firms, with their records, were located in distant terminal markets. They were therefore omitted from this study. Their method of operation was essentially the same as that of the many-station dealers, discussed later in detail. The intermittent, or "fly-by-night,"

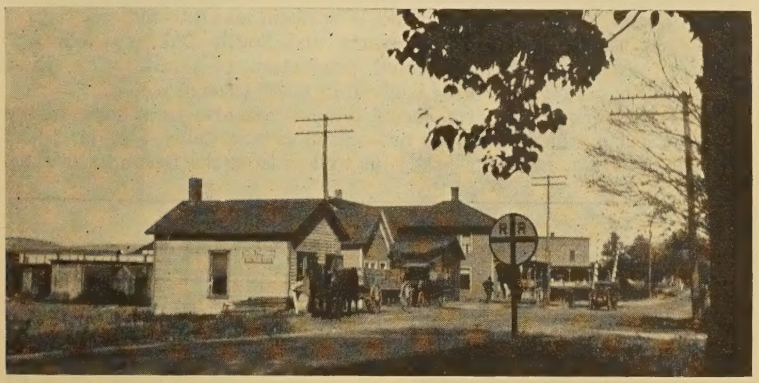


FIGURE 3. SCALE HOUSES AND OFFICES OF 5 COMPETING DEALERS AT SOUTH WAYLAND, STEUBEN COUNTY, NEW YORK

Three dealers share the scale house and the office in the center

type of dealer was also omitted because of the practical impossibility of locating such operators and the probability that no records were kept by them.

NEW YORK AS A POTATO-PRODUCING STATE

Potatoes have been produced in New York since the year 1718.[2] By 1849, when the seventh national census was taken, the crop had assumed considerable importance.

During the past fourteen years New York has produced an average of about 35,144,000 bushels of potatoes annually, or approximately 7 per cent of the total production for the United States. The census of 1920 places the value of the New York potato crop for 1919 at $69,812,321, or approximately 17 per cent of the value of all crops of the State for that year. Hay was the only New York crop which exceeded potatoes in value. While the farm value of the hay crop was greater than that of the potato crop, potatoes are a more important market and cash crop than hay. No data are available concerning the shipments of hay in New York during the 1919–20 season, but the receipts of hay at twelve markets in the United States during that period were 1,613,823 tons, or approximately 121,106 carloads.[3] For the same period 167,870 carloads of potatoes moved to market in the United States. The approximate farm value of a carload of hay (12½ tons at $20.45) during that period was $255.62; the approximate average farm value of a carload of potatoes (600 bushels at $1.483) was $889.80.[4]

New York is one of nineteen important late-potato-shipping States. The potato crop of New York comes into direct competition with the crops of

[2] New York State Agr. Soc. Trans. **8**: 945. 1848.
[3] U. S. Agr. Dept. Yearbook **1922**: 677, 690, 1011.
[4] U. S. Agr. Dept. Yearbook **1920**: 611–631.

Maine, Pennsylvania, Michigan, and Wisconsin, and into indirect competition with those of Minnesota, North and South Dakota, Nebraska, Colorado, and Idaho. The annual production of potatoes for these States for the period 1915–1923 is given in table 3 (page 10).

The New York potato crop meets competition also from some of the States producing the early or the mid-season crop, notably Florida, South Carolina, Virginia, and New Jersey, as well as from the Bermuda Islands.

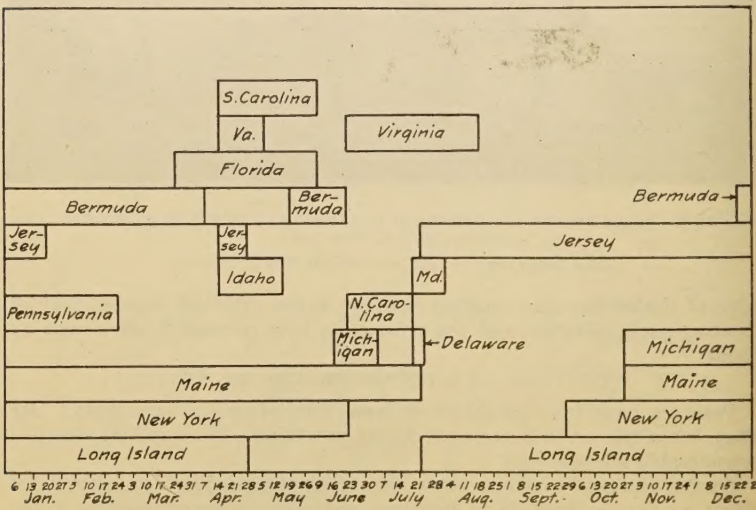


FIGURE 4. PERIODS DURING WHICH POTATOES FROM VARIOUS STATES WERE QUOTED ON THE NEW YORK MARKET, CALENDAR YEAR 1923

During the spring of 1923, Bermuda potatoes were on the market in New York City from January 1 to April 7. Florida potatoes made their appearance about March 20 and were last quoted on June 2. Virginia potatoes were quoted on April 14 and dropped off about May 5, to reappear again about June 10 and last until August 18. South Carolina potatoes could be had in the New York market from April 14 to June 2. The North Carolina potato crop during 1923 filled in the gap between seasons. The Delaware and Maryland crop competed slightly with the first offerings from Long Island during the second and third weeks in July. New Jersey potatoes were offered on the New York market at approximately the same time as Long Island potatoes.[5] The States of origin of potatoes sold on three large terminal markets are shown in figures 4 to 6.

The bulk of the late, or main, crop of potatoes is produced in Maine, New York, Pennsylvania, Michigan, Wisconsin, and Minnesota.

[5] Unpublished data gathered by D. B. Wilson, graduate student at Cornell University, from a study of files of the *Chicago Packer* for the year 1923.

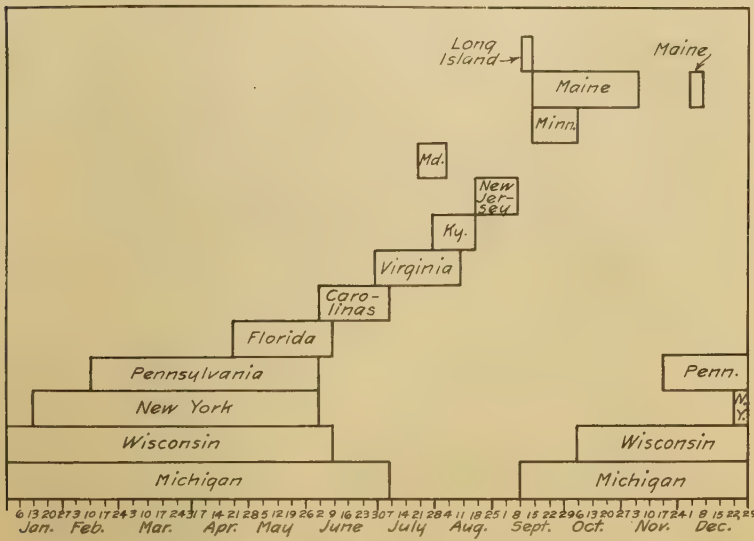

Long Island
Maine
Maine
Minn.
Md.
New Jer-sey
Ky.
Virginia
Caro-linas
Florida
Pennsylvania
Penn.
New York
N. Y.
Wisconsin
Wisconsin
Michigan
Michigan
6 13 20 27 3 10 17 24 3 10 17 24 31 7 14 21 28 5 12 19 26 2 9 16 23 30 7 14 21 28 4 11 18 25 1 8 15 22 29 6 13 20 27 3 10 17 24 1 8 15 22 29
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

FIGURE 5. PERIODS DURING WHICH POTATOES FROM VARIOUS STATES WERE QUOTED ON THE PITTSBURGH MARKET, CALENDAR YEAR 1923

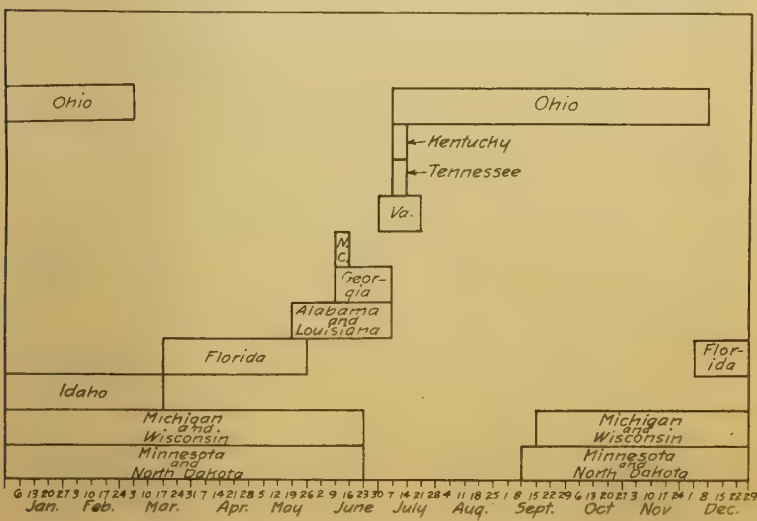

Ohio
Ohio
Kentucky
Tennessee
Va.
N. C.
Geor-gia
Alabama and Louisiana
Florida
Flor-ida
Idaho
Michigan and Wisconsin
Minnesota and North Dakota
Michigan and Wisconsin
Minnesota and North Dakota
6 13 20 27 3 10 17 24 3 10 17 24 31 7 14 21 28 5 12 19 26 2 9 16 23 30 7 14 21 28 4 11 18 25 1 8 15 22 29 6 13 20 27 3 10 17 24 1 8 15 22 29
Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct Nov Dec.

FIGURE 6. PERIODS DURING WHICH POTATOES FROM VARIOUS STATES WERE QUOTED ON THE CINCINNATI MARKET, CALENDAR YEAR 1923

NEW YORK AS A POTATO-SHIPPING STATE

In a recent bulletin,[6] the United States Department of Agriculture furnished data concerning the disposal of the main, or late, potato crop of the United States, covering the five-years period 1917–1922, as follows:

About 58 per cent of the combined early and late potato crop of 1919 was reported sold, according to the census returns. Evidently 42 per cent of the potato crop was retained on the farms. Allowing 10 per cent of the total crop for seed and 20 per cent more for shrinkage, stock feed, and decay, there remained about 11½ bushels per farm to be eaten by the people on the 3,000,000 farms which produce potatoes.

The census report says that only about one-half of the farms produce potatoes even for home use, so, evidently, part of the potatoes not sold in city markets are used on other farms. Apparently about one-third to one-half of the potatoes sold are not shipped in carload quantities, but are trucked directly to market or sold from the farms in small lots.

The disposal of the average of estimated crops for 1917–1921 is figured as follows:

Making the same 30 per cent allowance for waste, seed, etc., and taking out about 25 per cent as shipped in car lots, there remains about 45 per cent of the crop to be sold in small lots and consumed on farms.

From 25 to 30 per cent of the main, or late, crop of potatoes of the United States appears to have been grown for sale and to have gone through the usual channels of commercial distribution.

An approximation of the proportion which the commercial crop is of the total crop, for New York and the States with which it directly competes, is given in table 3. During the five-years period 1917–1922, approximately

TABLE 3. AVERAGE PRODUCTION FOR FIVE SEASONS, CAR-LOT SHIPMENTS, AND PERCENTAGE OF POTATO SHIPMENTS, FROM MAIN-CROP STATES, SEASONS 1917–18 TO 1921–22*

State	Production		Car-lot shipments	Per cent of crop shipped
	Bushels	Cars of 600 bushels		
Idaho	7,536,800	12,561	8,896	70.82
Colorado	11,611,000	19,351	12,814	66.21
Maine	25,120,600	41,868	22,610	54.07
Minnesota	30,870,000	51,450	22,983	44.46
Wisconsin	30,302,000	50,503	17,218	34.50
North Dakota	7,256,800	12,095	3,489	28.04
Michigan	30,979,000	51,632	12,976	25.13
New York	36,729,000	61,215	13,690	22.36
Nebraska	9,039,200	15,065	3,176	21.08
South Dakota	6,449,000	10,748	1,644	15.29
Pennsylvania	24,961,600	41,603	3,930	9.44

* U. S. Agr. Dept. Farmers' bul. 1317 : 3. 1923.

22 per cent of the New York crop was shipped in car lots, or an annual average of about 13,690 carloads of 600 bushels each. No data have been gathered covering the volume of potatoes shipped in trucks, but there can be no doubt that a large volume were so handled, particularly within a radius of from 50 to 75 miles of the New York up-state cities. In the

[6] U. S. Agr. Dept. Farmers' bul. 1317 : 1–5. 1923.

northern New York area, shippers at former loading points west of Malone stated that a large part of the potatoes produced there were now hauled by trucks to cities and towns in St. Lawrence and Jefferson Counties. A great deal of trucking of potatoes was done within a 50- to 75-mile radius of Syracuse, Rochester, and Buffalo, and in central and western New York.

In many instances potatoes hauled in trucks were sold directly to the retailer or to the consumer. If the truck operator went directly to the farmer for his load of potatoes, delivery to, as well as handling by, the local shipper was eliminated, brokerage was saved, and no warehouse costs were incurred. If the potatoes were sold directly to the consumer in the city, the services of the city wholesaler and retailer were eliminated, as well as the costs of unloading and delivering. Over against these possible savings, the cost of operating the truck and the carrying of a relatively small volume of potatoes would have to be compared with a comparatively low freight rate on a large volume of potatoes.

In the 1921–22 season, the carload shipments of New York potatoes totaled 18,963, or approximately 11,377,800 bushels. Of the total estimated production of 33,990,000 bushels, about 33 per cent moved in carload lots. In the 1922–23 season, the carload shipments of New York potatoes totaled 19,235, or approximately 11,541,000 bushels. Of the total estimated production of 37,400,000 bushels, approximately 31 per cent moved in carload lots.

Data have been made available by the Bureau of Agricultural Economics, United States Department of Agriculture, bearing on points of origin and number of carloads of potatoes shipped in New York State during the seasons 1920–21, 1921–22, and 1922–23 (table 4). During these three seasons, 19 out of 52 counties shipped, on the average, more than 100 cars

TABLE 4. CARLOAD SHIPMENTS, BY COUNTIES, OF NEW YORK WHITE POTATOES, SEASONS 1920–21, 1921–22, AND 1922–23

County	Number of carloads shipped					Average per cent of total shipments
	1920–21	1921–22	1922–23	Total for three seasons	Average for three seasons	
Albany	.....	.....	1	1	.....	.....
Allegany	915	1,665	996	3,576	1,192	6.45
Bronx	.....	1	.....	1	.....	.....
Broome	62	89	16	167	56	.....
Cattaraugus	36	135	52	223	74	.....
Cayuga	274	252	226	752	250	1.36
Chautauqua	25	30	16	71	24	.....
Chemung	49	57	16	122	41	.....
Chenango	91	133	40	264	88	.....
Clinton	382	494	515	1,391	464	2.51
Columbia	.....	1	1	2	1	.....
Cortland	379	491	237	1,107	369	2.00
Delaware	21	32	10	63	21	.....
Dutchess	4	4	2	10	3	.....
Erie	15	87	122	224	75	.....
Essex	20	37	60	117	39	.....
Franklin	485	905	534	1,924	641	3.47

TABLE 4 (*concluded*)

County	Number of carloads shipped					Average per cent of total shipments
	1920–21	1921–22	1922–23	Total for three seasons	Average for three seasons	
Genesee	542	687	1,137	2,366	789	4.26
Herkimer	1	8	.....	9	3	.....
Jefferson	.....	1	.....	1	.....	.....
Lewis	20	.....	2	22	7	.....
Livingston	593	595	713	1,901	634	3.43
Madison	66	120	39	225	75	.....
Monroe	826	467	1,018	2,311	770	4.17
Nassau	7	9	6	22	7	.....
Niagara	1	1	2	4	1	.....
Oneida	27	109	12	148	49	.....
Onondaga	520	478	302	1,300	433	2.34
Ontario	1,147	772	1,196	3,115	1,038	5.61
Orange	2	2	2	6	2	.....
Orleans	82	81	75	238	79	.....
Oswego	87	47	64	198	66	.....
Otsego	172	277	126	575	192	1.04
Queens	.....	5	.....	5	2	.....
Rensselaer	10	4	15	29	10	.....
St. Lawrence	6	14	6	26	9	.....
Saratoga	1	3	1	5	2	.....
Schenectady	.....	.....	1	1	.....	.....
Schoharie	6	7	1	14	5	.....
Schuyler	191	216	144	551	184	0.99
Seneca	53	41	35	129	43	.....
Steuben	2,838	3,408	2,511	8,757	2,919	15.78
Suffolk	5,641	4,829	7,185	17,655	5,885	31.82
Sullivan	.....	2	.....	2	.....	.....
Tioga	221	399	130	750	250	1.35
Tompkins	203	278	151	632	211	1.14
Ulster	1	.....	.....	1	.....	.....
Warren	1	.....	.....	1	.....	.....
Wayne	392	211	367	970	323	1.75
Washington	162	121	102	385	128	0.69
Wyoming	550	1,260	970	2,780	927	5.01
Yates	138	78	78	294	98	.....
State total	17,279	18,963	19,235	55,443	18,479	.....

of potatoes a year. These 19 counties shipped approximately 95 per cent of the total amount that moved to the market by rail. Only 4 of these 19 counties shipped more than 1000 cars each, Suffolk County leading with 5885, Steuben following with 2919, Allegany with 1192, and Ontario with 1038. These counties alone shipped approximately 59 per cent of the state total, Suffolk County shipping 31.8 per cent, Steuben 15.7 per cent, Allegany 6.4 per cent, and Ontario 5.6 per cent.

Exclusive of the counties on Long Island, there were only 29 stations in New York reporting average shipments of 100 carloads or more for these three seasons (table 5).[7]

[7] A complete list of shipments by stations and counties is given in the appendix (page 155).

TABLE 5. UP-STATE STATIONS IN NEW YORK SHIPPING AN AVERAGE OF 100 OR MORE CARLOADS OF POTATOES ANNUALLY, SEASONS 1920–21, 1921–22, AND 1922–23

County	Station	Number of carloads shipped			
		1920–21	1921–22	1922–23	Average for three seasons
Allegany	Andover	191	330	207	243
	Canaseraga	148	233	120	167
	Fillmore	79	159	99	112
	Wellsville	166	273	207	215
	Whitesville	111	169	118	133
Clinton	Cadyville	44	183	213	147
Franklin	Chateaugay	191	335	199	242
	Malone	42	240	132	138
Genesee	Batavia	69	116	141	109
	Stafford	126	116	165	136
Livingston	Dansville	142	167	145	151
Monroe	Honeoye Falls	130	60	142	111
Ontario	Holcomb	127	65	131	108
	Naples	210	219	182	204
	Phelps	117	78	114	103
	Victor	170	109	175	151
Steuben	Arkport	201	224	186	204
	Atlanta	197	257	192	215
	Avoca	202	237	186	208
	Cohocton	280	352	252	295
	Hornell	146	202	83	144
	Prattsburg	214	216	228	219
	Rogersville	165	217	144	175
	Wallace	329	400	270	333
	Wayland	261	345	269	292
	Wayland Station	177	216	152	182
Wyoming	Bliss	63	210	116	130
	Gainesville	116	216	228	187
	Hardys	84	206	160	150

The distribution of the potatoes to cities that received 35 or more carloads during the seasons 1921–22 and 1922–23 is shown in table 6. In the first season, approximately 72 per cent of the carloads went to 21 large cities and 1823 carloads went to 428 small cities and towns. In the second season, about 68 per cent went to 17 large cities and 1556 car loads went to 330 small cities and towns. The bulk of the car-lot shipments during both seasons went to large terminal markets.

New York City received only 9.4 per cent of the potatoes included in this study during the 1921–22 season and only 17.1 per cent during the 1922–23 season. In 1921–22, Pittsburgh apparently offered a better market for New York State potatoes than did New York City, while Cleveland, Philadelphia, and Washington seem to have been almost as attractive. In 1922–23, the market outside of New York City, but within the State, was apparently more attractive than was New York City itself. While cities within the State received 46 per cent of the potatoes shipped by the agencies studied, only 17.1 per cent went to the New York City market. (Table 6.)

TABLE 6. DESTINATIONS OF POTATOES COVERED BY THIS STUDY, CARLOADS OF 600 BUSHELS, SEASONS 1921–22 AND 1922–23

Cities receiving 35 or more carloads

1921–22			1922–23		
City	Number of cars	Per cent of total shipment	City	Number of cars	Per cent of total shipment
Pittsburgh, Pa.	775	12.0	New York, N. Y.	817	17.1
New York, N. Y.	602	9.4	Brooklyn, N. Y.	670	14.0
Cleveland, Ohio	532	8.3	Newark, N. J.	275	5.7
Philadelphia, Pa.	495	7.7	Cleveland, Ohio	259	5.4
Washington, D. C.	433	6.7	Philadelphia, Pa.	219	4.6
Newark, N. J.	334	5.2	Pittsburgh, Pa.	183	3.8
Baltimore, Md.	272	4.2	Jersey City, N. J.	174	3.6
Brooklyn, N. Y.	241	3.7	Scranton, Pa.	123	2.6
Youngstown, Ohio	159	2.5	Baltimore, Md.	115	2.4
Jersey City, N. J.	131	2.0	Schenectady, N. Y.	69	1.5
Akron, Ohio	90	1.4	Bridgeport, Conn.	68	1.4
Clarksburg, W. Va.	86	1.3	Burlington, Vt.	49	1.0
Richmond, Va.	85	1.3	Paterson, N. J.	49	1.0
Jacksonville, Fla.	68	1.1	Washington, D. C.	48	1.0
Albany, N. Y.	55	0.9	Jacksonville, Fla.	39	0.8
Wheeling, W. Va.	51	0.8	Troy, N. Y.	38	0.8
Harrisburg, Pa.	44	0.7	Hartford, Conn.	38	0.8
Indianapolis, Ind.	42	0.65			
Elizabeth, N. J.	41	0.65			
Atlanta, Ga.	38	0.6			
Schenectady, N. Y.	36	0.55			
428 miscellaneous destinations	1,823	28.35	330 miscellaneous destinations	1,556	32.5
Total	6,433	100.00		4,789	100.00

TABLE 7. DISTRIBUTION, BY STATES, OF POTATOES COVERED BY THIS STUDY, 600-BUSHEL CARLOADS, SEASONS 1921–22 AND 1922–23

1921–22				1922–23			
State	Number of carloads shipped	Per cent of total shipment	Number of destinations	State	Number of carloads shipped	Per cent of total shipment	Number of destinations
Pennsylvania	1,636	25.43	100	New York	2,205	46.03	117
New York	1,332	20.71	95	New Jersey	721	15.06	48
Ohio	1,040	16.17	64	Pennsylvania	731	15.26	74
New Jersey	842	13.09	59	Ohio	316	6.60	15
(District of Columbia)	437	6.79	2	Connecticut	194	4.05	14
Maryland	311	4.83	8	Massachusetts	142	2.97	20
West Virginia	215	3.34	30	Maryland	121	2.53	4
Virginia	181	2.81	21	Vermont	74	1.55	9
North Carolina	127	1.97	25	West Virginia	55	1.15	10
Florida	71	1.11	4	(District of Columbia)	48	1.00	1
South Carolina	67	1.04	8	Florida	43	0.90	3
Georgia	60	0.93	7	North Carolina	40	0.84	9
Indiana	45	0.70	4	Rhode Island	37	0.77	4
Connecticut	34	0.53	8	Virginia	22	0.46	6
Massachusetts	11	0.17	3	Georgia	15	0.31	2
Alabama	8	0.12	2	New Hampshire	13	0.27	5
Kentucky	7	0.11	2	South Carolina	11	0.23	5
Delaware	3	0.05	2	(Canada)	1	0.02	1
New Hampshire	2	0.03	2				
Vermont	2	0.03	1				
Tennessee	1	0.02	1				
Maine	1	0.02	1				
Total	6,433	100.00	449		4,789	100.00	347

In 1921–22, the up-state New York agencies that cooperated in this study shipped 6433 carloads of potatoes to 449 primary destinations in 21 States and the District of Columbia (table 7). The four States leading

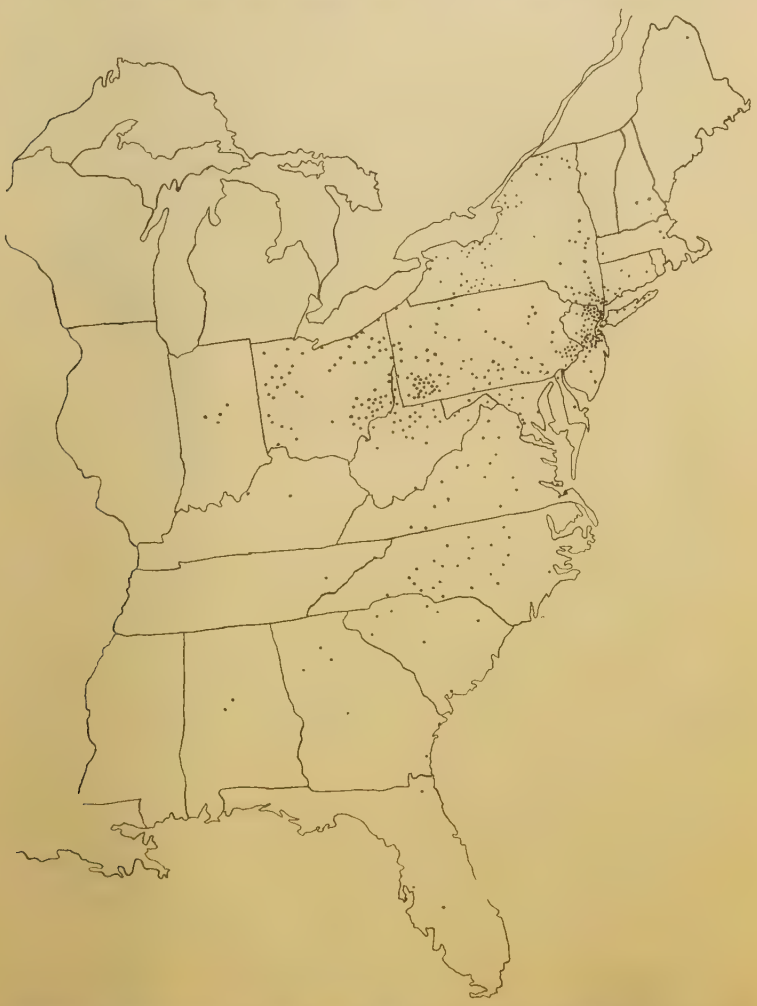


FIGURE 7. DISTRIBUTION OF 6433 CARLOADS OF POTATOES COVERED IN THIS STUDY, SEASON 1921–22

Each dot represents a primary destination. Dots do not indicate volume

in the receipts of these potatoes were: Pennsylvania, with 1636 cars, or about 25 per cent; New York, with 1332 cars, or about 21 per cent; Ohio, with 1040 cars, or 16 per cent; and New Jersey, with 842 cars, or 13 per

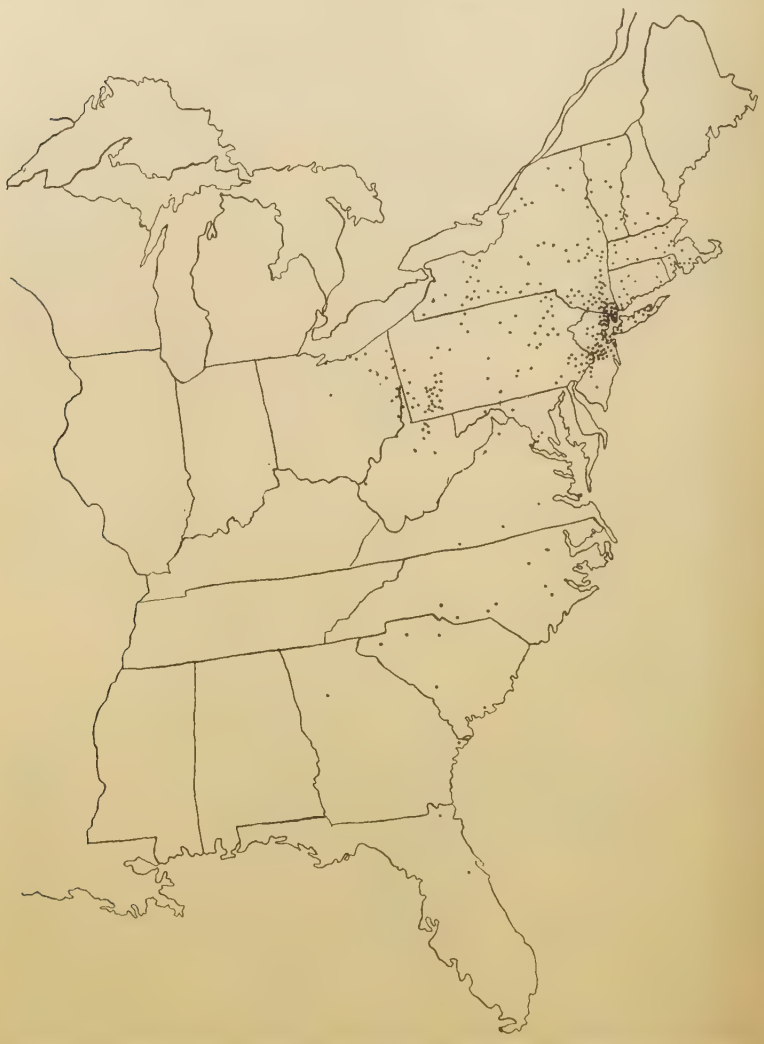


FIGURE 8. DISTRIBUTION OF 4789 CARLOADS OF POTATOES COVERED IN THIS STUDY, SEASON 1922–23

Each dot represents a primary destination. Dots do not indicate volume

cent. Pennsylvania thus received about 304 cars more than did New York State, while Ohio and New Jersey received, respectively, 292 and 490 cars less than did New York State. A large number of cars went west and south of the State during the 1921–22 season (figure 7).

In 1922–23, the cooperating agencies shipped 4789 carloads of potatoes to 347 primary destinations in 16 States, the District of Columbia, and Canada. Of this total, the four States leading in receipts were: New York, with 2205 carloads, or about 46 per cent; New Jersey, with 721 carloads, or about 15 per cent; Pennsylvania, with 731 carloads, or about 15 per cent; and Ohio, with 316 carloads, or about 7 per cent. A large number of carloads went to eastern destinations, while only a relatively small number went to southern and western points (figure 8). This was in sharp contrast to conditions during the previous season (table 8),

TABLE 8. Percentage of Total Shipments of New York Potatoes to East, West, and South,* Seasons 1921–22 and 1922–23*

Area	1921–22		1922–23	
	Number of carloads	Per cent of total	Number of carloads	Per cent of total
East	3,860	60.00	4,116	85.95
West	1,085	16.87	316	6.60
South	1,488	23.13	357	7.45
Total	6,433	100.00	4,789	100.00

* The territory east of the Ohio-Pennsylvania line and north of Mason and Dixon's line is here classified as "east," all territory west thereof as "west," and all territory south of Mason and Dixon's line as "south."

and this shift in primary destinations from west to east illustrates the competitive conditions which New York shippers are obliged to meet.

Because of its location, Maine ships its potatoes south and west. In a normal year Maine will very largely supply the New England States and contribute substantially to the New York City market and to the Hudson Valley cities. Up-state potatoes usually sell for less than do Maine potatoes, and, with a normal crop in Maine, are subject to severe competition in the East. In the West, New York competes directly with Michigan and Wisconsin for middle-western and southern markets. These two States in turn are subject to severe competition from the more westerly potato areas in Minnesota, North and South Dakota, Colorado, and Idaho. These last-named States, by shipping to the middle-western markets, have a tendency to force Wisconsin and Michigan potatoes farther east into competition with the New York, the Pennsylvania, or even the Maine, potatoes.

The freight rates in force in 1923 from competing potato areas to certain terminal markets are indicated in table 9. The western New York area had practically the same freight rate to New York City, Pittsburgh, and Cleveland. On the basis of freight rates, however, Pittsburgh and Cleveland were attractive markets for Wisconsin and Michigan potatoes, and

TABLE 9. FREIGHT RATES FROM COMPETING AREAS TO TERMINAL POINTS

(Carload rate, in cents per 100 pounds, March, 1923)

From	To			
	New York	Pittsburgh	Cleveland	Chicago
Presque Isle, Me	55.5	60.5	64.0	78.0
Cadillac, Mich	60.0	38.0	33.5	32.0
Waupaca, Wis	67.0	44.5	40.0	20.5
Moorehead, Minn	82.5	60.0	57.5	41.5
Fargo, N. Dak	82.5	60.0	57.5	41.5
Avoca, N. Y	28.5	28.0	27.0	39.5
Riverhead, L. I	17.0	44.0	50.0	66.5
Chateaugay, N. Y	34.0	47.5	40.0	.....

these competed strongly with the up-state New York stock. On the other hand, Boston and New York City were the logical destinations for Maine and Long Island potatoes.

In 1921, Maine had a total crop of 38,442,000 bushels, which was approximately 63 per cent larger than its average for the eight-years period 1915–1922 inclusive. This large crop contributed substantially to an oversupply in New York City and other eastern markets, and forced up-state shippers to seek other outlets. During the same year New York had practically an average crop, whereas the crops for Michigan, Wisconsin, and Minnesota were about 6.5 per cent below the eight-years average for those States. The result was the distribution of 40 per cent of the potatoes covered in this study to southern and western points, as indicated in figure 7.

The season 1922–23 found the situation practically reversed. Maine had a crop of only 21,600,000 bushels, which was 13.4 per cent below the eight-years average; New York had a crop 12.7 per cent above the eight-years average; and Michigan, Wisconsin, and Minnesota had crops 41.6 per cent above the eight-years average for those States. The result was the shipment of the bulk of the potatoes covered by this study to eastern destinations, with only a small proportion going to the west and south. A study of table 9 shows the advantage to New York shippers of meeting competition from western States in New York City rather than in Cleveland or in Pittsburgh.

Such shifts in outlets are of serious concern to potato shippers. Wholesale potato merchandising is carried on very largely through the medium of the telephone and the telegraph. In a business of this nature, knowledge of the trade necessarily plays an important rôle and the establishment of reliable trade connections is a long and expensive process. Such violent changes in production as were experienced during these two seasons force the severance of old business ties and the establishment of new and untried market connections which may have little permanent value. Loss and dissatisfaction inevitably result. Such a situation can hardly fail to make the marketing process more expensive and the rendering of efficient marketing services more difficult.

SERVICES RENDERED AT COUNTRY SHIPPING POINTS

The services performed at country shipping points were essentially similar whether the potatoes were sold to a farmers' cooperative association or to a private dealer.

RECEIVING AND LOADING

The potatoes were drawn to the shipping point by wagons or automobile trucks in loads averaging about 50 bushels. They were hauled usually in one of three ways: (1) loose in a deep wagon box with an end gate, from

FIGURE 9. UNLOADING POTATOES TO GRADERS BY SCOOP-SHOVEL AND FROM CRATES, AT A COOPERATIVE IN WESTERN NEW YORK

At the extreme right of the warehouse the dump equipment is in operation. The photograph shows the special end gate which drops down to make it easy to start shoveling

which they were removed by a scoop or a shovel (figures 9 and 10), (2) in old feed sacks, from which they were dumped directly on the grader (figure 11), or (3) in bushel crates (figure 9). On arrival at the shipping point the wagonload of potatoes was driven on large wagon scales and weighed. The receiver made out a tally slip for each load, giving date, name of farmer, and gross weight of load. The wagonload was then driven to the warehouse, or directly to the freight car in case no warehouses were used, and the potatoes were run over a grader which separated them into grades designated as United States no. 1, United States no. 2, and culls. In the grading operation, the farmer usually shoveled or dumped his potatoes into the hopper of the grader. The potato shipper operated the grader with the help of from two to six men, depending on the size of the grader, whether it was hand- or electrically driven, and what other processes were carried on at the same time. When the potatoes had been run over the grader, the culls were returned to the farmer and the wagon was again driven on the scales and reweighed. The difference between the two weights indicated the number of pounds of graded potatoes

delivered by the farmer. If the shipper bought both United States no. 1 and United States no. 2, the tally slip which the grower received indicated the number of pounds of each delivered. As a general practice, the farmer was paid cash for the potatoes when he wanted it. This phase and the exceptions to this practice are discussed later in connection with each agency.

The shipper sometimes sacked the potatoes directly from the grader, sometimes graded them into bushel baskets and dumped them into a bin, and sometimes graded them into baskets and loaded the car in bulk. If the potatoes were sacked, the sack was next weighed to insure the full weight, and was then sewed carefully with heavy twine. During a busy receiving period the sacks were usually left unsewed until the rush was

FIGURE 10. UNLOADING POTATOES FOR TEMPORARY STORAGE IN BINS AT A SHIPPING POINT IN FRANKLIN COUNTY, WESTERN NEW YORK

over, when all hands turned to sewing. If the potatoes were to be moved at once, and a freight car was ready, the next process was to sweep the car and to line the floor and sides with heavy building paper. In northern New York, cars were usually lined with lumber during cold weather, in addition to paper and sometimes straw. In western New York, refrigerator cars were generally used from November 1 to April 1, and so lumber linings were not necessary. When the car had been prepared by sweeping and lining, the sacks of potatoes were rolled into it by a hand truck and were tiered at the rate of 240 sacks to the car. In the western part of the State, from November 1 to April 1 the car was usually heated by small oil, charcoal, or sheet-iron stoves for from twelve to twenty-four hours before shipping. The stoves were then removed and the car was started toward its destination. With ordinary weather such shipments usually arrived in good condition, but heavy losses were occasionally incurred when the temperature reached low points while the potatoes were en route.

In northern New York, where extremely cold weather is likely to prevail at shipping time, stoves were sometimes fired and left fully charged in the car as it was sent to market. Occasionally a string of potato cars was "messengered," that is, a caretaker accompanied the cars to market in order to keep the fires going so as to prevent the potatoes from freezing.

SELLING

The manager or operator of the shipping agency was, of course, in constant touch with the market. Telegrams and price inquiries were received throughout the day. Careful attention was paid to state and federal market reports giving the prevailing prices, the number of cars shipped to certain markets, and the total movement from each competing area. If the supplies in the markets and the shipments were light, the asking price was advanced and "feelers" were sent out to prospective customers.

A many-station dealer, as soon as the daily price was established, telephoned his buyers at outlying stations informing them as to the price per bushel to offer the growers. There was much competition between different buyers in the same town. The writer has seen five dealers bidding for a single load of potatoes in one of the potato-shipping centers of western New York. Immediate necessity for stock needed to complete a carload sometimes makes it possible for the grower to obtain a premium for his potatoes.

FIGURE 11. UNLOADING POTATOES AT A SHIPPING POINT IN ALLEGANY COUNTY, WESTERN NEW YORK

Potatoes are hauled to the shipping point loose, in bulk, or in sacks. The illustration shows a grower unloading from sacks, but most of the potatoes in this wagon are in bulk

Orders by telegraph or telephone comprised the greater number of sales. Quotations were generally made on sacks or bulk f. o. b. destination on the basis of "freight allowed." This meant that the sight draft which accompanied the bill of sale was made out for the sales price of the potatoes minus the freight, which was actually paid by the receiver.

A large proportion of the carloads were sold through brokers, whose sole purpose was to bring buyer and seller together. The standard broker's fee for this service was $10 per carload of 600 bushels. The broker may have been located at a country point or in one of the large terminal markets. Brokers usually make extensive use of the telephone and the telegraph, and also send out many quotations by mail. They are in constant communication with a large number of markets. Many city wholesale houses

made a practice of ordering all their potatoes through brokers, who were supposed to know the market better than any other agency.

The sale having been made and confirmed, the manager of the shipping agency had the car loaded, sealed, and turned over to the railroad agent, who gave him signed bills of lading therefor. He then drew a sight draft for the sales value of the potatoes in the car, attached it to the original bill of lading, and took it to his local bank where he instructed the banker to forward the draft to a correspondent bank at the destination of the car. On arrival of the draft at its destination, the correspondent bank advised the receiver or purchaser that the draft was there to be taken up. After paying the draft, the purchaser or receiver then obtained the original bills of lading and took possession of the carload. The privilege of examining the car before acceptance, was permitted in many instances. To accomplish this the words "allow examination" were written on the face of the original bill of lading which accompanied the sight draft. When payment of the draft was finally made to the local bank at the shipping point, the bank notified the shipper to that effect and placed the proceeds of the draft, minus a small charge for bank exchange, to the credit of the manager or operator. Payment of drafts was made usually in from ten days to two weeks after shipment. These drafts were in many instances discounted at the local bank by the shipper in order to obtain funds for paying the growers.

Two other methods of selling potatoes were sometimes used, though the foregoing was by far the most common. When potatoes were piling up and sales were not developing readily, a carload was occasionally consigned to a commission merchant in one of the large terminal markets. In such cases, the bill of lading was made out to the merchant, who sold the carload for the best price he could get and remitted the proceeds of the sale to the shipper, minus an agreed percentage as selling commission. Potatoes were not sold on the commission basis unless the markets were dull and the potatoes had to be moved in order to prevent loss from demurrage or other causes.

A few shippers sold by the joint account method. When operating on this basis, the dealer or cooperative bought, loaded, and consigned the carload of potatoes at cost to a joint-account sales agent in one of the large terminal markets. The sales agent then sold the carload as advantageously as possible, often in small lots of a few sacks each. If the potatoes were shipped in bulk, the sales agent sometimes had them sacked at the terminal market in order to meet the requirements of the trade. Any profit over the cost of the potatoes delivered at the terminal market (that is, cost of potatoes loaded at country shipping point, plus freight to destination and cost of sacking at terminal point) was divided between the joint-account sales agent and the country shipper. Losses were likewise shared equally.

GRADES AND GRADING

The necessity for careful grading was recognized and quite generally accepted by growers and shipping agencies alike in the western New York area, and on the average western New York potatoes were well graded during these two seasons. Grading was not popular with the growers in northern New York, and potatoes from that area were not

particularly well graded. Only two grades were in general use — United States no. 1, commonly called "firsts," and United States no. 2, commonly called "seconds." The requirements as established by the United States Department of Agriculture for these grades are set forth in table 10.

TABLE 10. TABULATED COMPARISON OF UNITED STATES POTATO GRADES*

Grade	Minimum diameter (inches)	Tolerance for undersize (per cent)	Tolerance for defects (per cent)	Tolerance for soft rot, decay (included in "Tolerance for defects") (per cent)	Frost injury and decay	Second growth, and growth cracks badly misshapen	Dirt, foreign matter, sunburn, hollow heart, cuts, scab, blight, dry rot, damage by insects or by mechanical means
No. 1.....	1⅞ (round) 1¾ (long)	5	6	2	Free	Free	Free
No. 2.....	1½	5	6	2	Free	No restrictions	Free from serious damage

* U. S. Agr. Dept. Farmers' bul. 1317:15. 1923.

Early in the 1921–22 season, a tally was kept by the writer on 54 loads of potatoes drawn to shipping points in western New York. The proportions in which these loads graded is indicated in table 11. The rejections per load ranged from as low as 20 pounds, or 0.66 per cent, to as high as 480 pounds, or about 14 per cent. On the average, the potatoes in these 54 loads graded as follows: about 89 per cent as United States no. 1, or "firsts," with a range from 74 to 95 per cent for different loads; about 6 per cent as United States no. 2, or "seconds," with a range from 1.4 to 17.9 per cent.

In considering these figures, it should be borne in mind that some sorting and grading takes place in the field while the potatoes are being picked up.

TABLE 11. TOTAL WEIGHTS, NUMBER OF POUNDS, AND PER CENT, OF FIRSTS, SECONDS, AND CULLS, FROM 54 WAGONLOADS OF POTATOES, WESTERN NEW YORK, SEASON 1921–22

Load no.	Pounds of potatoes				Per cent		
	Total weight of load	Firsts, or U. S. no. 1	Seconds, or U. S. no. 2	Rejects, or culls	Firsts, or U. S. no. 1	Seconds, or U. S. no. 2	Rejects, or culls
1.....	3,050	2,790	240	20	91.47	7.87	0.66
2.....	3,280	3,100	120	60	94.51	3.66	1.83
3.....	3,160	2,640	240	280	83.55	7.59	8.86
4.....	3,250	2,690	320	240	82.77	9.85	7.38
5.....	2,550	2,140	320	90	83.92	12.55	3.53
6.....	970	850	80	40	87.63	8.25	4.12
7.....	3,120	2,940	90	90	94.24	2.88	2.88
8.....	3,290	2,990	180	120	90.88	5.47	3.64

TABLE 11 (*concluded*)

Load no.	Pounds of potatoes				Per cent		
	Total weight of load	Firsts, or U. S. no. 1	Seconds, or U. S. no. 2	Rejects, or culls	Firsts, or U. S. no. 1	Seconds, or U. S. no. 2	Rejects, or culls
9	2,080	1,930	30	120	92.79	1.44	5.77
10	3,610	3,130	360	120	86.70	9.97	3.33
11	3,560	3,190	190	180	89.61	5.34	5.05
12	3,670	3,230	320	120	88.01	8.72	3.27
13	2,680	2,080	480	120	77.61	17.91	4.48
14	3,230	2,870	300	60	88.85	9.29	1.86
15	3,160	2,620	420	120	82.91	13.29	3.80
16	3,350	2,690	180	480	80.30	5.37	14.33
17	2,750	2,580	150	20	93.82	5.45	0.73
18	3,780	3,570	150	60	94.44	3.97	1.59
19	2,830	2,710	60	60	95.76	2.12	2.12
20	1,920	1,770	120	30	92.19	6.25	1.56
21	3,000	2,700	270	30	90.00	9.00	1.00
22	3,125	3,060	45	20	97.92	1.44	0.64
23	4,510	4,370	110	30	96.90	2.44	0.66
24	2,750	2,180	180	390	79.27	6.55	14.18
25	3,030	2,640	150	240	87.13	4.95	7.92
26	3,890	3,500	60	330	89.97	1.54	8.48
27	2,450	2,300	100	50	93.88	4.08	2.04
28	2,820	2,560	50	210	90.78	1.77	7.45
29	3,570	3,330	120	120	93.28	3.36	3.36
30	3,410	3,200	60	150	93.84	1.76	4.40
31	3,220	2,950	90	180	91.61	2.80	5.59
32	3,220	2,800	320	100	86.96	9.94	3.10
33	2,780	2,500	140	140	89.92	5.04	5.04
34	3,420	2,900	60	460	84.80	1.75	13.45
35	3,090	3,020	50	20	97.73	1.62	0.65
36	3,270	3,000	240	30	91.74	7.34	0.92
37	1,190	950	180	60	79.83	15.13	5.04
38	3,410	3,110	240	60	91.20	7.04	1.76
39	2,680	2,410	150	120	89.92	5.60	4.48
40	3,070	2,680	330	60	87.30	10.75	1.95
41	3,000	2,220	390	390	74.00	13.00	13.00
42	3,270	2,990	190	90	91.44	5.81	2.75
43	2,980	2,460	420	100	82.55	14.09	3.36
44	4,160	3,700	250	210	88.94	6.01	5.05
45	3,540	3,240	60	240	91.53	1.69	6.78
46	3,200	2,850	220	130	89.06	6.88	4.06
47	1,430	1,130	150	150	79.02	10.49	10.49
48	3,540	3,240	60	240	91.53	1.69	6.78
49	2,160	1,870	110	180	86.58	5.09	8.33
50	2,940	2,420	190	330	82.31	6.46	11.23
51	3,370	2,870	80	420	85.16	2.38	12.46
52	1,690	1,340	50	300	79.29	2.96	17.75
53	3,190	2,820	270	100	88.40	8.46	3.14
54	3,990	3,660	180	150	91.73	4.51	3.76
Total	163,655	145,480	9,915	8,260	.....	.....	.....
Average per load	3,031	2,692	184	153	.....	.....	.....
Per cent	100	88.8	6.0	5.2	.....	.....	.....

The foregoing ratios would probably not hold for the total production of potatoes in the areas studied. Undoubtedly many small or diseased tubers are left in the field at harvest time but are probably included in the total crop estimate.

The fact that a large proportion of the potatoes from northern New York were sold by the joint-account method in large terminal markets may be the reason for less attention being given to grading by the northern dealers. The sales agent took what was sent to him, and graded and sacked it to meet his trade requirements; thus objections as to faulty grades did not readily come back on the shipper. With a comparatively high freight rate, however, it seems a doubtful policy to ship poor or undersized stock to any distant market, except in times of great scarcity. Even with the unusually good quality which is characteristic of most northern New York potatoes, it is likely that somewhat better grading would pay. The growers in this section do not seem to appreciate the necessity for grading. This situation, of course, makes it more difficult for dealers or associations, which must meet competition, to improve grading methods.

Good grading seems to be fundamental to efficient commercial handling. It is one of the important factors that determine how the potatoes from one producing area shall meet in the consuming market the competition with the product of other areas.

SACKING AS COMPARED WITH BULK SHIPPING

It was the practice for many years to ship all New York State potatoes in bulk. For the past four or five years, however, there has been a strong tendency toward the use of sacks. The agencies studied during the 1921–22 and 1922–23 seasons used both methods. The percentages of total shipments in sacks and in bulk are shown in table 12:

TABLE 12. Bulk and Sack Shipments, and Percentages of Total Shipments, Seasons 1921–22 and 1922–23

Type of agency	1921–22				1922–23			
	Pounds shipped		Per cent		Pounds shipped		Per cent	
	Bulk	Sacks	Bulk	Sacks	Bulk	Sacks	Bulk	Sacks
Cooperatives	2,355,730	23,083,785	9.3	90.7	3,223,694	25,000,250	11.4	88.6
Single-station dealers	21,314,703	3,934,080	84.4	15.6	10,823,002	10,654,627	50.4	49.6
Many-station dealers	18,175,388	142,141,937	11.3	88.7	15,597,803	101,353,007	13.3	86.7
Total	41,845,821	169,159,802	19.8	80.2	29,644,499	137,007,884	17.8	82.2

On the average, from 18 to 19 per cent of the up-state potatoes were shipped in bulk during these two seasons. In northern New York, bulk shipments constituted approximately 79 per cent of the total in 1921–22, and 60 per cent in 1922–23 (figures 12 and 13). A higher percentage of potatoes was shipped in bulk by single-station dealers during the first season than during the second season. This was due to the fact that in 1921–22 seven of the eight single-station dealers were located in the northern area, while in 1922–23 five of the single-station dealers were in

FIGURE 12. GRADING AND LOADING POTATOES IN BULK AT A WESTERN NEW YORK SHIPPING POINT

northern New York and five were in western New York. Bulk shipments in the northern part of the State exceeded sacked shipments by from 10 to 30 per cent. Even when sacks were used there was little or no uniformity as to capacity, type, and so forth. Secondhand feed sacks were often used. They were ordinarily tied with coarse twine and not sewed as is the practice in western New York.

In western New York, the practice of shipping in sacks was very general. During the two seasons, approximately 90 per cent of the potatoes were so shipped. Usually clean, new sacks, holding 150 pounds, or $2\frac{1}{2}$ bushels, were used. In some cases, the sacks were attractively trade-marked (figure 14). All were carefully sewed.

Whether a shipper should ship in bulk or in sacks depends on a variety of factors. Sacking is relatively less important when the shipper has a joint-account sales agent in a large terminal market, for in that case the agent usually prefers to sack the potatoes at the terminal point to meet the fancy of his customers. Sacking is more important when potatoes are sold on the f. o. b. basis, since it is then desirable to know the exact description of the carload of potatoes.

Opinions of potato shippers vary decidedly as to the merits or the demerits of the practice of sacking potatoes. In general, however, the following advantages incident to sacking are recognized:

1. There is less loss or shrinkage in a carload of sacked potatoes than in a bulk carload. One of the main reasons for the adoption of the practice of sacking potatoes was the heavy loss by theft in the terminal markets. This has been very largely eliminated by the use of a sack containing 150 pounds, which is not a very convenient object to steal. Furthermore, potatoes in sacks are easily tallied and the loss is quickly discovered, so that a claim may be made against the carrier if loss has occurred in transit. With the average carload en route from ten days to two weeks, there is always some shrinkage from drying out, and similar causes. This is not serious when the shrinkage is spread through the carload at the rate of $\frac{1}{2}$ or $\frac{1}{4}$ pound per sack of 150 pounds, but the same shrinkage in a carload in bulk will loom up as an actual shortage of a bushel or two.

2. It may be possible to capitalize a trade name on the sack or by use of a tag. This sometimes means a better price, ranging as high as 10 to 15 cents more per sack.

FIGURE 13. GRADING AND LOADING POTATOES IN BULK AT A WESTERN NEW YORK SHIPPING POINT

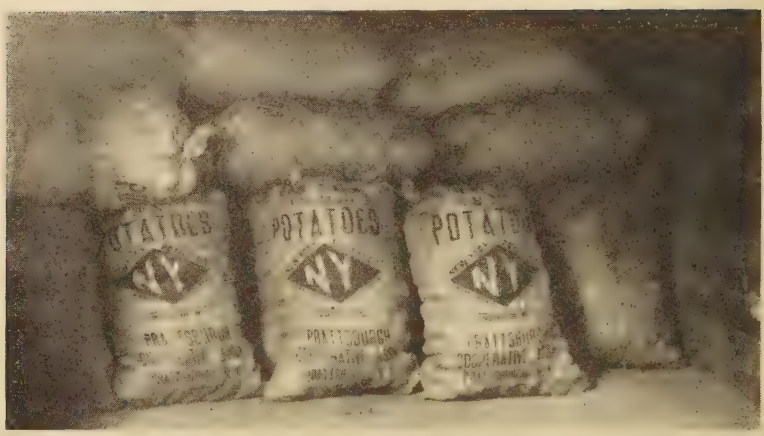


FIGURE 14. TYPE OF SACK USED, METHOD OF SEWING, AND METHOD OF LOADING POTATOES IN SACKS, AT A SHIPPING POINT IN STEUBEN COUNTY, WESTERN NEW YORK

3. Potatoes must be packaged to haul from the car, and it is cheaper to sack at the country point than in the city, chiefly because of the difference in labor cost. Labor for sacking at the country points costs ordinarily from 30 to 40 cents an hour, while in the terminal markets, where union wage scales are used, the cost of labor runs from 70 cents to $1 an hour. In December, 1923, the index number of wages of farm labor, with board, which is fairly comparable with the labor used in sacking at country points, was 185 on the basis of the index number for 1910 1914 as 100. At the same time, the index number of wages of factory workers in New York State was 220 on the same base.[8]

4. Potatoes in sacks give a neater, more uniform appearance to the whole carload, as contrasted with a carload of potatoes in bulk, in which three or four varieties may be evident from a hasty inspection, as well as a considerable difference in size.

5. Several dealers stated that bulk cars are usually held longer on the track at the terminal market in order to permit the sacking of the potatoes. This is likely to lead to demurrage charges.

6. Some shippers maintain that it is easier to load a car with sacked potatoes. This may be questioned in some places, especially if the car is loaded directly, without the potatoes going through a warehouse.

The disadvantages of sacking potatoes are commonly regarded as follows:

1. Any condition that makes a wet spot on the sack gives the sack a bad appearance. One decayed potato may impair the appearance of a whole sackful. In bulk shipments it is easy to throw out defective potatoes. It is difficult, inconvenient, and expensive to recondition sacked potatoes.

[8] New York State Coll. Agr., Dept. Agr. Econ. and Farm Mgt. Farm Economics, February, 1924, pages 89 and 100.

2. The buyers in some markets prefer to see the product they are purchasing, and want to sack the potatoes themselves and throw out the poor ones. New York City is such a market. A result of this practice is that bulk potatoes are frequently quoted at higher prices per bushel than sacked potatoes. The price tells only half the tale, however, as the bulk potatoes paid for are those that have been accepted as good potatoes. There may be many bushels sorted out for which nothing at all is paid.

3. The city trade does not yet have full faith in and knowledge of United States grades.

4. There is a slight possibility that the branded sacks of one shipper may be used over again by another shipper who may hurt the trade name. This possibility is not serious, however, in view of the flimsy nature of the original sack, which does not stand refilling well and clearly shows that it is a secondhand sack.

Figure 15. Bulkhead in a car loaded with potatoes in bulk at Churubusco, Clinton County, New York

5. The cost of sacks and the labor of sacking are considerable items. New sacks generally cost from 9 to 12 cents each, old sacks are commonly bought at approximately 5 cents each. New sacks thus cost about 4 cents per bushel during the two seasons. This cost must be offset by decreased losses from shrinkage or theft, or from increased selling value, if sacking is to be remunerative. The cost of bulkheads (figures 15 and 16) necessary in bulk cars only partly offsets the cost of sacks.

The general tendency toward sacking would seem to indicate that, on the whole, the trade considers that the advantages of sacking outweigh the disadvantages.

WAREHOUSES AND THE STORAGE PROBLEM

Large farmhouse cellars, good roads, and nearness to markets, have been important factors affecting the potato-storage problem in New York. Comparatively large trackside storage warehouses are used in Maine, Wisconsin, and Minnesota. In New York, warehouses are used chiefly for receiving potatoes until enough are accumulated so that a full carload

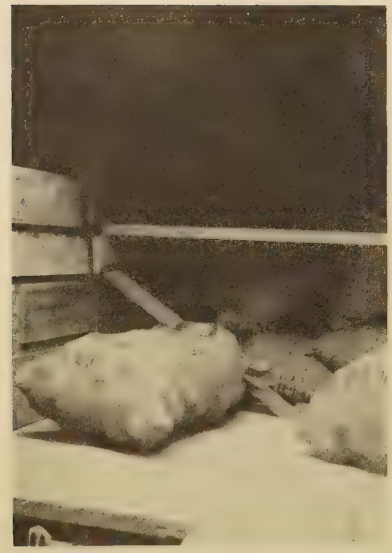


FIGURE 16. BULKHEAD PARTLY CONSTRUCTED IN A CAR BEING LOADED WITH POTATOES IN BULK AT SOUTH WAYLAND, STEUBEN COUNTY, NEW YORK

A few sacks of "seconds" are sometimes thrown into the space between the bulkheads. These are sold for whatever they will bring in the market

or two may be shipped (figures 17 and 18). Potatoes are usually raised within six or eight miles of the nearest shipping point. With an excellent system of state roads, which are kept open throughout the winter to facilitate the hauling of milk as well as the rural free delivery of mail, the problem of transportation of potatoes is not difficult.

The length of the potato-digging season in up-state New York is limited. To protect them from early frosts, the potatoes are brought to the cellars as fast as labor permits. They are often stored temporarily in barns or sheds. Many farmhouses, built when labor and material were cheap, have large, well-protected cellars. The growers who have these cellars find them the cheapest place to store potatoes, but the increased use of modern heating appliances for farmhouses will probably render such cellars less desirable for potato storage. Even then, however, it is likely that potatoes will be stored on the farm rather than at the distant trackside. Labor is at a premium during the digging season, and except on rainy days cannot be used most economically to haul potatoes to the shipping point if any kind of storage is available on the farm. Once the farm-storage space is filled, the remaining potatoes are usually hauled to the shipping point and sold.

TABLE 13. POTATO STOCK IN GROWERS' AND IN DEALERS' HANDS, JANUARY 1*

Year	Per cent held											
	In Maine		In New York		In Michigan		In Wisconsin		In Minnesota		In North Dakota	
	Grower	Dealer	Grower	Dealer	Grower	Dealer	Grower	Dealer	Grower	Dealer	Grower	Dealer
1915–16	82	18	95	5	82	18	78	22	72	28	74	26
1916–17	72	28	85	15	78	22	79	21	62	38	64	36
1917–18	84	16	95	5	88	12	80	20	80	20	86	14
1918–19	81	19	92	8	82	18	80	20	76	24	86	14
1919–20	78	22	90	10	77	23	78	22	76	20	86	14
1920–21	88	12	91	9	83	17	88	12	80	20	62	38
1921–22	81	19	92	8	81	19	74	26	73	27	63	37
1922–23	84	16	92	8	88	12	88	12	74	26	83	17
Average	81	19	92	9	82	18	81	19	75	25	75	25

* U. S. Agr. Dept. Yearbook 1922 : 673–674.

Figure 17. Potato warehouse rented by a cooperative at Webbs Crossing, Steuben County, New York

Occasionally the pit method of storage is resorted to, rather than hauling potatoes a considerable distance when time is so valuable.

This should not necessarily be interpreted to mean that a large part of the crop is stored every year. Financial needs frequently compel the grower to market a large share of his crop as soon as it is dug, and many farmers make it a policy to sell at this time.

In New York the crop is largely held and stored by the grower. The contrast between New York and other States in this respect is seen in a comparison for the past eight years of the reported holdings of potatoes in growers' and in dealers' hands on January 1 (table 13). On the average,

Figure 18. Cooperative potato warehouse at Cadyville, Clinton County, New York

FIGURE 19. POTATO WAREHOUSES AT ROGERSVILLE, STEUBEN COUNTY, NEW YORK
The warehouse at the left is used by a cooperative; the others are dealers' warehouses

for that period, dealers have held but 9 per cent of the merchantable potatoes remaining in New York State on January 1, while the corresponding figure for Maine was 19 per cent, for Wisconsin 19 per cent, and for Minnesota 25 per cent.

Potato warehouses at country shipping points in New York vary greatly in size and value (tables 14 and 15, and figures 19 to 22). Of the 24 dealers or associations studied during the 1921–22 season, 23 had warehouses; 1 loaded only at the car door. The average value per warehouse was $1776, with a range in value from $300 to $9500. The investment per 600-bushel carload handled that season averaged $37.34, ranging from $6.98 to $121.79. The 23 shipping agencies had a total of 90 warehouses, and the total permanent storage capacity was estimated by these shippers to be approximately 119,100 bushels. There were actually stored in these warehouses during that season 64,703 bushels, or about two-thirds

FIGURE 20. DEALER'S POTATO WAREHOUSE AT KANONA, STEUBEN COUNTY, NEW YORK

FIGURE 21. WAREHOUSE AND SCALE HOUSE OF A DEALER AT KANONA, STEUBEN COUNTY, NEW YORK

of their capacity. These 24 shipping agencies stored approximately 1.3 per cent of the total volume of potatoes shipped by them during the 1921–22 season. (Table 14.)

Of the 34 dealers or associations studied during the 1922–23 season, 33 had warehouses; 1 loaded only at the car door. The average value per warehouse was $1754, with a range in value from $300 to $7500. The investment per 600-bushel carload averaged $46.88, ranging from $11.54 to $162.50. These 33 shipping agencies had a total of 90 warehouses, and the total permanent storage capacity was estimated to be approximately 201,200 bushels. There were actually stored in these warehouses during that season 51,050 bushels, or about 25 per cent of the estimated capacity. These 34 shipping agencies stored approximately 1.8 per cent of the total volume of potatoes shipped by them during the 1922–23 season. (Table 15.)

Of the 90 warehouses used during the first season, 71 were reported as having no permanent storage space; during the second season, 58 out of the 90 were

FIGURE 22. POTATO WAREHOUSES OF TWO DEALERS AT SOUTH WAYLAND, STEUBEN COUNTY, NEW YORK

TABLE 14. WAREHOUSES: INVESTMENT, PERMANENT STORAGE CAPACITY, AND APPROXIMATE SIZE, 23 POTATO-SHIPPING AGENCIES, SEASON 1921–22

Type of agency	Number of warehouses	Investment at beginning of season			Permanent storage capacity of warehouse (bushels)	Number of bushels actually stored for the winter	Number of 600-bushel carloads handled	Approximate size of some warehouses (feet)
		Total	Per warehouse	Per 600-bushel carload				
Cooperatives	1	$ 5,100.00	$5,100.00	$ 59.30	4,000	3,500	86	50×32
	1	1,000.00*	1,000.00	16.13	600	None	62	20×20
	1	8,621.00	8,621.00	97.97	None	None	88	30×40
	1	2,900.00	2,900.00	25.22	9,000	9,000	115	36×90
	1	9,500.00*	9,500.00	121.79	18,000	15,000	78	72×40
	3	11,075.00	3,691.66	46.92	50,000	21,903	236	20×30; 34×88; 36×50
	1	725.00	725.00	17.68	None	None	41	22×40
Total	9	$38,921.00	.....	.....	81,600	49,403	706	.....
Average	1.3	.....	$4,324.56	$55.13	9,067	5,489	78	.....
Single-station dealers	1	$2,160.00	$2,160.00	$26.67	1,800	None	81	20×40
	1	300.00*	300.00	6.98	2,000	None	43	20×30
	1	3,500.00	3,500.00	23.18	None	None	151	45×30
	1	1,500.00	1,500.00	14.56	18,000	6,000	103	40×60
	1	2,500.00	2,500.00	62.50	None	None	40	30×50
	1	2,500.00	2,500.00	11.31	3,000	None	221	30×50
	1	1,500.00	1,500.00	33.33	1,200	None	45	18×40
Total	7	$13,960.00	.....	.....	26,000	6,000	684	.....
Average	1	.....	$1,994.29	$20.41	3,714	857	98	.....
Many-station dealers	6	$10,460.00	$1,743.66	$28.04	None	None	373	.....
	1	2,000.00	2,000.00	25.64	7,500	7,500	78	40×30
	8	15,087.62	1,885.95	64.20	None	None	235	.....
	21	27,900.00	1,328.57	54.49	None	None	512	.....
	2	3,000.00	1,500.00	27.03	None	None	111	30×50; 20×40
	13	23,600.00	1,815.38	36.14	None	None	653	.....
	6	2,409.90	401.65	13.77	4,000	1,800	175	.....

	9 8	15,201.84 7,295.52	1,689.09 910.69	51.35 15.96	None None	None None	296 457	.....
Total.....	74	$106,954.88	.....	.....	11,500	9,300	2,890	.....
Average.....	8.2	.....	$1,445.34	$37.01	155	126	39	.....
Total for all agencies.....	90	$159,835.88	.....	.....	119,100	64,703	4,280	.....
Average for all agencies....	.....	.....	$1,775.95	$37.34	1,323	719	48	.....

* Capitalized at ten times annual rental.

TABLE 15. WAREHOUSES: INVESTMENT, PERMANENT STORAGE CAPACITY, AND APPROXIMATE SIZE, 33 POTATO-SHIPPING AGENCIES, SEASON 1922–23

Type of agency	Number of warehouses	Investment at beginning of season			Permanent storage capacity of warehouse (bushels)	Number of bushels actually stored for the winter	Number of 600-bushel carloads handled	Approximate size of some warehouses (feet)
		Total	Per warehouse	Per 600-bushel carload				
Cooperatives	1	$ 4,852.00	$4,852.00	$ 44.93	4,000	1,000	108	50×32
	1	1,000.00*	1,000.00	32.26	600	None	31	20×20
	1	7,096.71	7,096.71	83.49	None	None	85	30×50
	1	2,784.00	2,784.00	20.17	9,000	5,000	138	36×90
	1	7,500.00*	7,500.00	65.79	18,000	18,000	114	72×40
	3	10,635.00	3,211.66	65.65	50,000	6,000	162	20×30; 34×88; 30×50
	1	700.00	700.00	25.00	None	None	28	22×40
	1	1,200.00	1,200.00	63.16	None	None	19	20×30
	1	3,900.00	3,900.00	162.50	6,000	3,000	24	72×30
	2	2,000.00	1,000.00	111.11	5,200	None	18	18×30; 20×30
	1	1,620.00*	1,620.00	37.67	None	None	43	20×30
Total	14	$43,287.71	.....	.....	92,800	33,000	770	.....
Average	1.3	.....	$3,091.98	$56.22	6,629	2,357	.....	.....
Single-station dealers	1	$ 2,000.00	$2,000.00	$21.51	1,800	None	93	20×40
	1	300.00*	300.00	11.54	2,000	None	26	20×30
	1	3,325.00	3,325.00	38.22	None	None	87	45×30
	1	1,350.00	1,350.00	22.50	18,000	18,050	60	40×60
	1	1,425.00	1,425.00	35.63	1,200	None	40	18×40
	1	1,200.00	1,200.00	85.71	3,000	None	14	26×32
	1	2,166.00	2,166.00	69.87	40,000	None	31	136×40
	1	700.00	700.00	18.92	None	None	37	30×50
	1	4,300.00	4,300.00	58.11	7,500	None	74	40×50
	1	2,400.00	2,400.00	18.18	3,000	None	132	30×50
Total	10	$19,166.00	.....	.....	76,500	18,050	594	.....
Average	1	.....	$1,916.60	$32.27	7,650	1,805	.....	.....

Many-station dealers	6	$ 8,000.00	$1,333.33	$34.04	None	None	235	.....
	1	2,000.00	2,000.00	25.64	7,500	None	78	40×30
	11	15,050.00	1,368.18	83.61	None	None	180	.....
	2	2,900.00	1,450.00	26.13	11,000	None	111	30×50; 20×40
	12	18,250.50	1,520.87	65.89	None	None	277	.....
	8	6,452.31	806.54	27.22	4,000	None	237	.....
	8	11,010.02	1,376.25	84.69	None	None	130	.....
	5	7,850.00	1,570.00	35.52	None	None	221	.....
	8	6,605.73	825.72	25.80	None	None	256	.....
	2	6,000.00	3,000.00	70.59	None	None	85	30×40; 30×80
	1	2,858.40	2,858.40	48.45	4,500	None	59	60×25
	2	8,500.00	4,250.00	62.50	4,900	None	136	24×36; 24×30
Total	66	$95,476.96	.....	.....	31,900	.....	2,005	.....
Average	6.3	.....	$1,446.62	$47.62	483	.....	.....	.....
Total for all agencies	90	$157,930.67	.....	.....	201,200	51,050	3,369	.....
Average for all agencies	.....	.....	$1,754.79	$46.88	2,236	567	.....	.....

* Capitalized at ten times annual rental.

similarly reported as without permanent storage. The largest storage space reported was for 50,000 bushels; one warehouse had space for 40,000 bushels, although no potatoes were stored in that warehouse; two warehouses had a capacity of 18,000 bushels each; one of 9000; and the remainder reporting permanent storage space each had a capacity of 7500 bushels or less.

Dealers or associations at country points in New York did not carry in storage any appreciable volume of potatoes.

POTATO-HANDLING EQUIPMENT

Two of the shipping agencies were using mechanical dumping equipment with large and specially constructed graders (figures 23 and 24). One of these outfits had a series of automatic conveyors for carrying potatoes into bins or into sacks, as necessity required. These two agencies were, so far as available data show, the only potato shippers in New York using dumping equipment. In each case, this apparatus enabled the grower to remove an entire load of potatoes by gravity and to grade them in approximately one-third of the time taken with a hand grader or one-half the time taken with an electric grader. There was no appreciable saving in the man power needed to operate the dumping equipment as compared with ordinary hand or electric graders, since the larger equipments required more men to operate them. From the point of view of the grower, who frequently has to wait in line for a considerable length of time, these dumping equipments were appreciated. Twenty loads were timed during the fall of 1921 over the three different types of equipment. On the average, the dumping equipment unloaded and graded a 50-bushel wagonload in about 12 minutes, the electric grader in about 25 minutes, and the ordinary hand grader in 40 minutes. These figures represent a very small number of loads, but they may indicate relative efficiencies. The electric graders took 1.5 minutes per man per bushel for unloading, the power dumping outfits 1.75 minutes, and the hand graders 2.18 minutes.

FIGURE 23. PART OF THE DUMPING AND GRADING EQUIPMENT AT A WESTERN NEW YORK SHIPPING POINT

The interior of the building is shown in figure 24

The remainder of the shipping agencies used either hand- or electrically driven graders. A majority of the graders in use were of

Figure 24. DUMPING AND GRADING EQUIPMENT
This is an interior view of the dumping and grading outfit shown in figure 23

the hand-driven type illustrated by figure 25. A price list for March, 1924, gave $60 as the price of this type and size. The heaviest depreciation on these graders was on the mesh belts for grading. These could be replaced at a cost of $18 for the top belt and $15 for the second belt. It was estimated that the average life of a grader was from five to eight years.

A number of these agencies used power-driven graders. These were somewhat more expensive than the hand type. The cost of such a grader in March, 1924, was $250 without the picking table and $278.50 including the table. The depreciation on the power-driven graders was estimated to be somewhat higher than on the hand-driven graders, and varied from 20 to 25 per cent a year. Many of the agencies had both power- and hand-driven graders.

The investment in equipment by the twenty-three agencies studied in 1921–22 varied widely (table 16). The investment in potato-handling equipment per warehouse, on the part of the cooperatives, averaged $326.93, and varied from $83 to $750. The investment in potato-handling equipment per carload handled averaged $4.17 and varied from $1.15 to $13.80.

The single-station dealers had a smaller average investment in equipment per warehouse, $296.93; the variations among individuals was greater, from $51 to $1000. The investment in equipment per carload handled varied from 50 cents to $9.06 and averaged $3.04.

The many-station dealers had the lowest average investment in potato-handling equipment per warehouse, $223.33, but the highest average investment per carload handled, $5.72. This was due to the scattering

FIGURE 25. A HAND GRADER IN POSITION FOR RECEIVING AND GRADING POTATOES AT A WESTERN NEW YORK SHIPPING POINT

This is the most common and the least expensive type of equipment in use

character of the many-station potato business. The variations in investment per warehouse were from $35 to $395.63. The variations in investment per carload handled in 1921–22 were from 45 cents to $7.27.

The average investment in potato-handling equipment for the twenty-three agencies was $239.42 per warehouse and $5.03 per carload handled.

The investment in equipment per warehouse, during the 1922–23 season, varied with the individual agency and with the type of agency (table 17). The cooperative associations had an average investment in potato-handling equipment of $496.48 per warehouse, or approximately $9.03 per carload handled. The investment per warehouse varied from $73 to $1090, and per carload handled varied from $2.35 to $23.68.

The single-station dealers had an average investment of $268.35 per warehouse, and of $4.52 per carload handled. The investment per warehouse varied from $48 to $925 and per carload handled from 75 cents to $13.19.

The many-station dealers had an average investment in equipment per warehouse of $295.25, or approximately $9.72 per carload handled. The investment in equipment per warehouse varied from $35 to $1059.20, and per carload handled from 45 cents to $23.96.

The average investment in equipment per warehouse for thirty-three agencies during the 1922–23 season was $323.57, with an investment per carload handled of $8.64.

The cooperatives had the highest investment in potato-handling equipment, the many-station dealers had the next highest, and the single-station dealers the lowest. In general, the average investment per carload during 1922–23 was higher than in the previous year because of the smaller volume of potatoes handled.

SIZE OF CARLOADS

The number of pounds shipped per carload varied from 12,000 to 68,895 in 1921–22. The average weight shipped by the many-station dealers was 37,795 pounds, or approximately 630 bushels; by cooperatives, 38,606

TABLE 16. INVESTMENT IN POTATO-HANDLING-EQUIPMENT, 23 SHIPPING AGENCIES, SEASON 1921-22

Type of agency	Investment in potato-handling equipment			Number of 600-bushel carloads handled
	Total	Per warehouse	Per 600-bushel carload	
Cooperatives	$750.00	$750.00	$ 8.72	86
	83.00	83.00	1.34	62
	411.40	411.40	4.68	88
	132.00	132.00	1.15	115
	500.00*	500.00	6.41	78
	500.00	166.66	2.12	236
	566.00	566.00	13.80	41
Total	$2,942 40	.....	.....	706
Average	.....	$326.93	$4.17	.....
Single-station dealers	$ 80.00	$ 80.00	$0.99	81
	60.00	60.00	1.40	43
	400.00	400.00	2.65	151
	51.00	51.00	0.50	103
	362.50	362.50	9.06	40
	1,000.00	1,000.00	4.52	221
	125.00	125.00	2.78	45
Total	$2,078.50	.....	.....	684
Average	.....	$296.93	$3.04	.....
Many-station dealers	$2,235.65	$372.61	$5.99	373
	35.00	35.00	0.45	78
	1,297.48	162.18	5.52	235
	1,300.00	61.90	2.54	512
	700.00	350.00	6.31	111
	4,600.00	353.84	7.04	653
	1,272.84	212.14	7.27	175
	1,920.53	235.61	6.49	296
	3,165.00	395.63	6.93	457
Total	$16,526.50	.....	.....	2,890
Average	.....	$223.33	$5.72	.....
Total for all agencies	$21,547.40	.....	.....	4,280
Average for all agencies	.....	$239.42	$5.03	48

* Capitalized at ten times annual rental.

pounds, or approximately 643 bushels; by single-station dealers, 39,771 pounds, or approximately 663 bushels. The average weight per carload for all agencies was 38,688 pounds, or approximately 644 bushels.

The larger carloads shipped by the single-station dealers at this time were probably due to two causes. Several of the single-station dealers sold on the joint-account basis. In such a case, no definite quantity to the carload was specified; the joint-account sales agent took what was sent him and sold it. When sold on any other basis, the number of sacks or bushels was usually specified or understood. Most sales were made on

TABLE 17. INVESTMENT IN POTATO-HANDLING EQUIPMENT, 33 SHIPPING AGENCIES, SEASON 1922–23

Type of agency	Investment in potato-handling equipment			Number of 600-bushel carloads handled
	Total	Per warehouse	Per 600-bushel carload	
Cooperatives	$ 713.54	$ 713.54	$ 6.61	108
	73.00	73.00	2.35	31
	758.19	758.19	8.92	85
	1,090.00	1,090.00	7.90	138
	500.00*	500.00	4.39	114
	1,962.50	654.16	12.11	162
	531.00	531.00	18.96	28
	450.00	450.00	23.68	19
	370.00	370.00	15.42	24
	215.00	107.50	11.94	18
	287.50	287.50	6.69	43
Total	$6,950.73	.....	.....	770
Average	.....	$496.48	$9.03	.....
Single-station dealers	$ 70.00	$ 70.00	$ 0.75	93
	48.00	48.00	1.85	26
	340.00	340.00	3.91	87
	85.00	85.00	1.42	60
	111.50	111.50	2.79	40
	60.00	60.00	4.29	14
	409.00	409.00	13.19	41
	435.00	435.00	11.76	37
	200.00	200.00	2.70	74
	925.00	925.00	7.01	132
Total	$2,683.50	.....	.....	594
Average	.....	$268.35	$4.52	.....
Many-station dealers	$2,272.00	$ 378.66	$ 9.67	235
	35.00	35.00	0.45	78
	1,300.00	118.18	7.22	180
	575.00	287.50	5.18	111
	2,139.00	178.25	7.72	277
	1,916.26	239.53	8.09	237
	1,089.48	136.18	8.38	130
	5,296.00	1,059.20	23.96	221
	2,796.50	362.06	10.92	256
	554.00	277.00	6.52	85
	283.39	283.39	4.80	59
	1,230.00	615.00	9.04	136
Total	$19,486.63	.....	.....	2,005
Average	.....	$295.25	$9.72	.....
Total for all agencies	$29,120.86	.....	.....	3,369
Average for all agencies	.....	$323.57	$8.64	37

*Capitalized at ten times annual rental.

TABLE 18. FREQUENCY DISTRIBUTION OF WEIGHTS PER CARLOAD FOR 24 SHIPPING AGENCIES, SEASON 1921–22

Range in weight per carload (pounds)	Number of carloads			
	7 cooperatives	8 single-station dealers	9 many-station dealers	Total for 24 shipping agencies
15,000–15,999	.....	.....	4	4
16,000–16,999	.....	1	3	4
17,000–17,999	.....	1	4	5
18,000–18,999	11	.....	7	18
19,000–19,999	1	.....	2	3
20,000–20,999	.....	1	2	3
21,000–21,999	4	.....	2	6
22,000–22,999	1	.....	4	5
23,000–23,999	1	.....	.....	1
24,000–24,999	1	.....	2	3
25,000–25,999	.....	.....	1	1
26,000–26,999	.....	.....	1	1
27,000–27,999	.....	.....	3	3
28,000–28,999	1	1	8	10
29,000–29,999	.....	.....	3	3
30,000–30,999	8	5	203	216
31,000–31,999	2	4	34	40
32,000–32,999	3	5	22	30
33,000–33,999	4	8	65	77
34,000–34,999	6	5	26	37
35,000–35,999	12	9	40	61
36,000–36,999	348	165	2,151	2,664
37,000–37,999	99	74	775	948
38,000–38,999	33	39	144	216
39,000–39,999	36	66	245	347
40,000–40,999	14	55	106	175
41,000–41,999	18	40	71	129
42,000–42,999	32	51	137	220
43,000–43,999	18	30	37	85
44,000–44,999	5	15	21	41
45,000–45,999	26	20	85	131
46,000–46,999	7	12	27	46
47,000–47,999	3	11	17	31
48,000–48,999	2	5	21	28
49,000–49,999	3	3	9	15
50,000–50,999	1	1	5	7
51,000–51,999	3	2	5	10
52,000–52,999	2	3	1	6
53,000–53,999	.....	2	4	6
54,000–54,999	.....	.....	3	3
55,000–55,999	.....	2	6	8
56,000–56,999	1	1	3	5
57,000–57,999	1	.....	1	2
58,000–58,999	1	1	.....	2
59,000–59,999	.....	.....	1	1
60,000–60,999	.....	.....	1	1
61,000–61,999	.....	.....	.....	.....
62,000–62,999	1	.....	1	2
63,000–63,999	.....	.....	1	1
64,000–64,999	.....	.....	.....	.....
65,000–65,999	.....	.....	.....	.....
66,000–66,999	.....	.....	.....	.....
67,000–67,999	.....	.....	1	1
68,000–68,999	1	1	.....	2

the basis of a standard 600-bushel carload. The single-station dealers studied during the 1921 22 season were, with one exception, located in northern New York, where temperatures range low and where greater care must be taken in lining and heating the cars. The larger the number of bushels loaded per car, the lower is the unit cost for heating and lining.

Although the average size of all car-lot shipments was 644 bushels per car, approximately 47 per cent of the 5664 carloads were 600-bushel cars, about 17 per cent were 625-bushel cars, about 6 per cent were 650-bushel cars, 4 per cent were 700-bushel cars, and 4 per cent were 500-bushel cars. The 600-bushel, 36,000-pound, 240-sack carload constituted almost 50 per cent of the total shipments (table 18).

The range in weights of carloads shipped in 1922 23 was from 10,650 pounds to 97,500 pounds. The average weight per carload shipped by the single-station dealers was 37,299 pounds, or 622 bushels; by the many-station dealers, 38,342 pounds, or 639 bushels; by the cooperatives, 38,800 pounds, or 647 bushels. The average weight per carload for all agencies was 38,225 pounds, or approximately 637 bushels, about the same as in the preceding year.

The larger carloads shipped by the cooperatives during this season were probably due to a number of very large carloads of seed potatoes shipped by two cooperatives, as well as to the joint-account method of sale employed by one of these two cooperatives.

The 600-bushel, 36,000-pound, 240-sack carload predominated during the 1922–23 season, as it did during 1921–22 (table 19). Of the total number of carloads, 52 per cent contained 600 bushels, 17 per cent 625 bushels, 5 per cent 650 bushels, about 4 per cent 700 bushels, and 3 per cent 666 bushels.

CLAIMS FOR ALLOWANCES AND DEDUCTIONS

With a very few exceptions, the records kept by these shipping agencies did not indicate the reasons for making allowances or deductions on any particular car, nor was it possible to ascertain from them just how many cars had been rejected. Practically all of the shipping agencies knew the total amount that had been deducted or allowed each season, but none could do much more than venture an opinion as to the reason for such allowances or deductions. Claims and allowances have therefore been computed as a charge per car for the entire volume handled.

These claims arose from a variety of causes. Request for a deduction from the sales price was usually made, after inspection of the car by the receiver at the destination, on the ground that the potatoes were not as specified in the sale. The request for allowance was generally offered as an alternative for complete rejection of the carload by the receiver. The most common causes given by the shippers were: damage by frost; development of disease in transit; below grade; and decline in market price.

Expert graders who had had many years of experience stated that they could not be certain of grading out potatoes that had "hollow-heart," or those that were field-frosted and shipped soon after. Potatoes that have been frosted in the field may not show any evidence of it until they have been allowed to sweat.

TABLE 19. FREQUENCY DISTRIBUTION OF WEIGHTS PER CARLOAD FOR 34 SHIPPING AGENCIES, SEASON 1922–23

Range in weight per carload (pounds)	Number of carloads			
	12 cooperatives	10 single-station dealers	12 many-station dealers	Total for 34 shipping agencies
15,000–15,999	5	1	5	11
16,000–16,999	.....	1	1	2
17,000–17,999	2	1	1	4
18,000–18,999	2	1	2	5
19,000–19,999	.....	.....	1	1
20,000–20,999	1	.....	1	2
21,000–21,999	1	1	1	3
22,000–22,999	.....	1	1	2
23,000–23,999	1	.....	2	3
24,000–24,999	.....	1	4	5
25,000–25,999	2	.....	2	4
26,000–26,999	1	1	1	3
27,000–27,999	.....	.....	1	1
28,000–28,999	1	.....	4	5
29,000–29,999	.....	.....	1	1
30,000–30,999	6	3	17	26
31,000–31,999	1	.....	5	6
32,000–32,999	2	2	2	6
33,000–33,999	1	4	14	19
34,000–34,999	1	2	28	31
35,000–35,999	10	6	27	43
36,000–36,999	333	284	1,645	2,262
37,000–37,999	75	51	646	772
38,000–38,999	27	26	75	128
39,000–39,999	60	41	132	233
40,000–40,999	36	18	80	134
41,000–41,999	14	15	42	71
42,000–42,999	20	17	129	166
43,000–43,999	8	11	34	53
44,000–44,999	27	10	19	56
45,000–45,999	35	4	88	127
46,000–46,999	7	5	10	22
47,000–47,999	4	3	10	17
48,000–48,999	12	.....	18	30
49,000–49,999	10	2	12	24
50,000–50,999	5	1	9	15
51,000–51,999	2	3	9	14
52,000–52,999	5	1	4	10
53,000–53,999	2	1	5	8
54,000–54,999	3	1	3	7
55,000–55,999	.....	1	3	4
56,000–56,999	1	.....	.....	1
57,000–57,999	.....	.....	2	2
58,000–58,999	1	.....	3	4
59,000–59,999	.....	.....	.....	.....
60,000–60,999	1	.....	1	2
61,000–61,999	1	.....	.....	1
62,000–62,999	.....	.....	.....	.....
63,000–63,999	.....	.....	1	1
64,000–96,999	.....	.....	.....	.....
97,000–97,999	1	.....	.....	1

Insufficient lining and heating were frequently blamable for the frozen condition of stock when it arrived in the market. Sharp, unseasonable drops in temperature caused heavy losses during both seasons.

Standards of grading varied greatly among these shippers. Many graded their potatoes very carefully; a few were lax, and shipped potatoes as United States no. 1 which were not strictly up to grade. To use their own terms, they "took a chance."

The outstanding reason for claims and allowances, in the opinion of the shippers, was a declining market. When prices were falling, certain types of receivers seized upon any kind of excuse to avoid loss. Defects were discovered in the carload which would pass unnoticed with a rising or a normal market price, and the shipper was notified that the carload would be rejected unless a substantial reduction in price was accepted. In such a situation, the shipper was at a disadvantage. If he refused the request for an allowance, he was likely to have the carload on his hands for several days in a distant market while trying to sell it. Demurrage bills mount rapidly. A rejected car would probably be hard to sell for its real value. A trip to the market to inspect the car might involve an expenditure of time and funds in excess of the amount of the claim. Recourse might have been had to inspection by federal officials, if the potatoes were in a terminal market, and an attempt might have been made to enforce the sale through the courts. Such a procedure would have been lengthy, costly, and probably unsatisfactory. Recognizing the situation at its true value, the shipper usually haggled with the receiver of the potatoes by wire until an allowance was agreed upon. If the receiver demanded too exorbitant an allowance, the shipper often turned the carload over to a commission merchant.

The trade recognizes unjustifiable rejections as a pernicious and harmful practice, but it is a difficult matter to adjust. There are one or two commercial organizations which make a business of settling claims of this sort.

Several shippers are strongly in favor of a licensing system somewhat similar to that used during the World War. They contend that all receivers should be licensed. Then, if a car is rejected and a federal inspector finds the rejection to be unwarranted, the receiver would be given the alternative of accepting the car at the original invoice price or having his license revoked.

An effort has also been made during the seasons of 1922-23 and 1923-24 to prevent the shipment of poor stock. A special shipping-point inspection service was carried on cooperatively in the Steuben County potato area by the New York State Department of Farms and Markets and the United States Department of Agriculture. Using United States potato grades as the standard, a limited number of carloads were inspected and a certificate was furnished describing the carload. The certificate set forth in detail the condition of the car and of the contents at the time of inspection, indicating the percentage of decay, the percentage of other blemishes and defects, and the size of the potatoes, with a final statement as to whether or not the load as a whole conformed to the requirements of United States grade no. 1. Under the provisions of the federal law, the certificate was prima facie evidence of the truth of the statements

contained therein. Two copies of the certificate were delivered to the shipper; one was for his files, and one was to be attached to the bill of lading. A summarized copy also was placed in each car.[9]

Shipping-point inspection in New York State has as yet been in operation too short a time to warrant definite conclusions as to its efficacy. Opinions of shippers differed as to its value in eliminating rejections. Many of the shippers, particularly the many-station dealers, felt that the inspection was insurance against shipping cars that were off grade. Even with additional federal inspection at the destination, however, some dealers felt that the licensing feature was necessary in order to make the inspection effective.

A movement has likewise been inaugurated among the responsible receivers in the terminal markets. Arbitration committees are being formed to pass on rejections and disputes. Trade associations are being organized for the promotion of higher ethics in the trade. These measures may relieve the situation, but it is doubtful whether rejections can ever be entirely eliminated in dealing with a perishable or semi-perishable commodity such as potatoes.

COSTS AND MARGINS

The gross wholesale price per 600-bushel carload of potatoes, delivered in railroad yards at primary destinations, for all agencies studied during the 1921–22 season averaged $762.53. Freight charges amounted to $107.13, or 14.05 per cent of the gross wholesale price, and $11.05, or 1.45 per cent, was returned as claims and allowances for one reason or another. The grower received, on the average, $566.73, or 74.32 per cent, and the operating costs at the country shipping point averaged $86.57, or 11.35 per cent. The dealers or associations handling potatoes at country points averaged a loss of $8.95 per carload, or 1.17 per cent of the gross sale price. (Figure 26.)

Of the average operating or handling cost of $86.57 per carload at the country shipping point, labor and management constituted $28.64, or 33.08 per cent; warehouse costs, $6.22, or 7.19 per cent; equipment costs, $1.05, or 1.21 per cent; general office costs, $8.35, or 9.65 per cent; telegraph and telephone bills, $3.07, or 3.54 per cent; bank exchange, $1.13, or 1.30 per cent; brokerage and selling commissions, $8.93, or 10.32 per cent; car linings, $2.02, or 2.34 per cent; sacks, tags, and twine, $19.74, or 22.80 per cent; and miscellaneous expenses, $7.42, or 8.57 per cent. (Figure 27.)

Potatoes were more plentiful during the 1922–23 season, and the gross wholesale price for the thirty-four agencies studied averaged $521.57 per carload of 600 bushels, delivered in railroad yards at primary destinations, as compared with $762.53 for the previous year. Freight charges amounted to $98.89, or 18.96 per cent; and $7.29, or 1.4 per cent, was returned as claims and allowances. On the average, the grower received $322.73, or 61.87 per cent of the gross sale price, and the operating costs at the country shipping point averaged $93.67, or 17.96 per cent. The

[9] New York State Dept. of Farms and Markets. Ann. rept. 1922: 45.

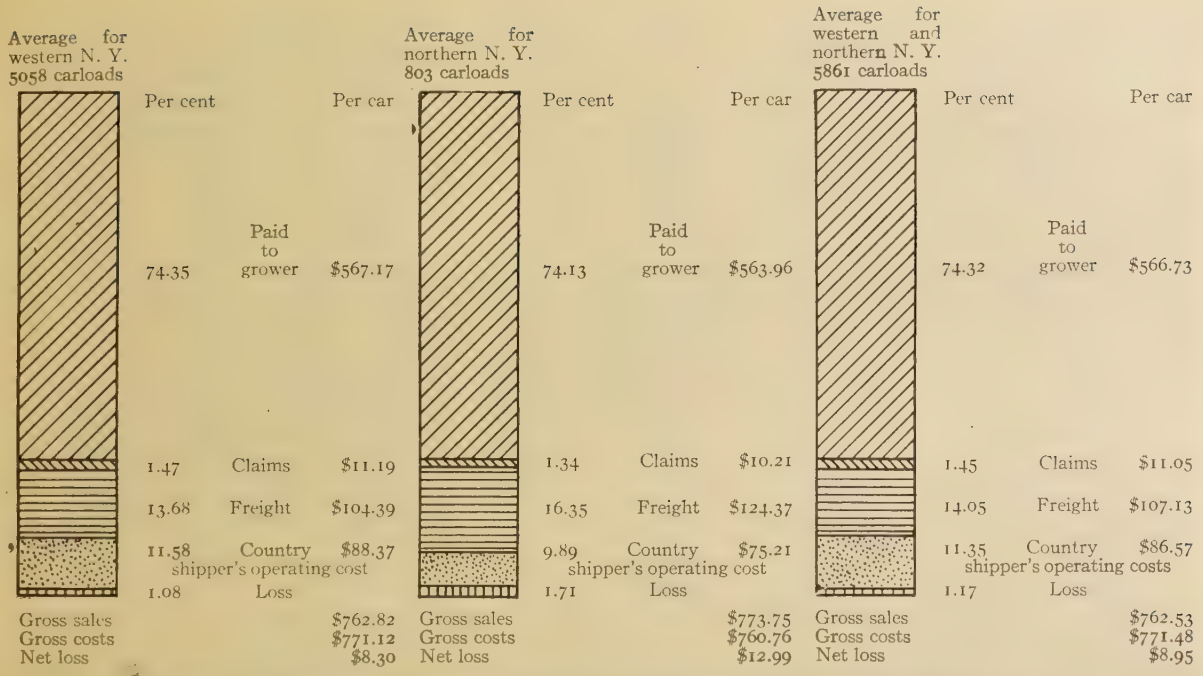


FIGURE 26. DISTRIBUTION OF WHOLESALE PRICE OF POTATOES, 24 SHIPPING AGENCIES, SEASON 1921–22

Data cover 5861 carloads of 600 bushels each. Price is f. o. b. railroad yards at destination

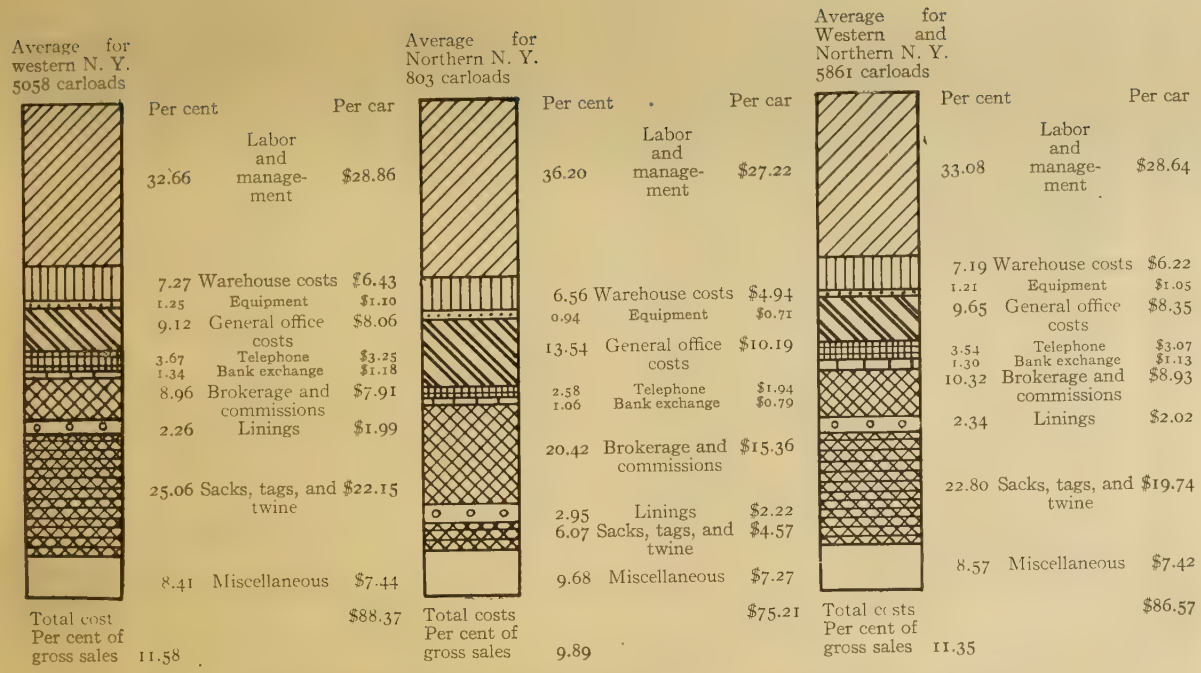

Average for western N. Y. 5058 carloads
Per cent
Per car
32.66 Labor and management $28.86
7.27 Warehouse costs $6.43
1.25 Equipment $1.10
9.12 General office costs $8.06
3.67 Telephone $3.25
1.34 Bank exchange $1.18
8.96 Brokerage and commissions $7.91
2.26 Linings $1.99
25.06 Sacks, tags, and twine $22.15
8.41 Miscellaneous $7.44
Total cost $88.37
Per cent of gross sales 11.58
Average for Northern N. Y. 803 carloads
Per cent
Per car
36.20 Labor and management $27.22
6.56 Warehouse costs $4.94
0.94 Equipment $0.71
13.54 General office costs $10.19
2.58 Telephone $1.94
1.06 Bank exchange $0.79
20.42 Brokerage and commissions $15.36
2.95 Linings $2.22
6.07 Sacks, tags, and twine $4.57
9.68 Miscellaneous $7.27
Total costs $75.21
Per cent of gross sales 9.89
Average for Western and Northern N. Y. 5861 carloads
Per cent
Per car
33.08 Labor and management $28.64
7.19 Warehouse costs $6.22
1.21 Equipment $1.05
9.65 General office costs $8.35
3.54 Telephone $3.07
1.30 Bank exchange $1.13
10.32 Brokerage and commissions $8.93
2.34 Linings $2.02
22.80 Sacks, tags, and twine $19.74
8.57 Miscellaneous $7.42
$86.57
Total costs
Per cent of gross sales 11.35

FIGURE 27. DISTRIBUTION OF COSTS OF HANDLING POTATOES AT COUNTRY SHIPPING POINTS, SEASON 1921–22

Data cover 5861 carloads of 600 bushels each. Gross sales price f. o. b. railroad yards at destination

dealers or associations handling potatoes at the country shipping point averaged a loss of $1.01 per carload, or 0.19 per cent of the gross sale price. (Figure 28.)

Of the average total operating or handling costs of $93.67 per carload at the country shipping point, labor and management constituted $28, or 29.88 per cent; warehouse costs, $6.42, or 6.86 per cent; equipment costs, $1.27, or 1.36 per cent; general office costs, $10.27, or 10.97 per cent; telegraph and telephone bills, $2.72, or 2.9 per cent; bank exchange, 84 cents, or 0.9 per cent; brokerage and selling commissions, $11.40, or 12.17 per cent; car linings, $2.06, or 2.2 per cent; sacks, tags and twine, $22.84, or 24.38 per cent; and miscellaneous expenses, $7.85 ,or 8.38 per cent. (Figure 29.)

There were, of course, wide variations in many of these items which will be brought out in the detailed discussions of the three types of shipping agencies.

Estimates have frequently been made as to what proportion of the consumer's dollar the farmer gets. The data in this study cover only wholesale buying prices at the city point, and no data are available to indicate the average retail price of these potatoes. An approximation may be obtained, however, by use of data published by the Bureau of Agricultural Economics, United States Department of Agriculture, giving analyses of the retail prices of potatoes in three large terminal markets — Boston, Chicago, and Pittsburgh.[10] If conditions in the markets receiving New York potatoes were similar to those in Boston and Pittsburgh, then the operating costs, grower's portion, and freight, discussed heretofore, represent approximately from 54 to 58 per cent of the average retail selling price (table 20). This means that New York growers got approximately

TABLE 20. AN ANALYSIS OF RETAIL PRICES OF POTATOES FROM FOUR POTATO-SHIPPING STATES, SEASON 1922–23*

	Maine		Minnesota		Wisconsin		Michigan	
	Per cent of retail price	Price per 100 pounds	Per cent of retail price	Price per 100 pounds	Per cent of retail price	Price per 100 pounds	Per cent of retail price	Price per 100 pounds
Grower's portion	30.8	$ 0.67	20.6	$0.394	25.7	$0.508	22.6	$0.49
Country buyer's portion	9.0	0.196	15.7	0.301	16.9	0.333	14.3	0.31
Freight	18.2	0.395	13.6	0.260	10.4	0.205	17.5	0.38
City distribution	42.0	0.912	50.1	0.959	47.0	0.929	45.6	0.99
Average retail price	100.0	$2.173	100.0	$1.914	100.0	$1.975	100.0	$2.17

* Preliminary report, Bureau of Agr. Econ., U. S. Agr. Dept., p. 3. 1924.

from 35 to 36 per cent of the retail price of potatoes during the 1922–23 season. From 42 per cent to 50.1 per cent of the retail price was absorbed by distribution costs after the potatoes reached the city. Unpublished data gathered cooperatively by the Port of New York Authority and the Bureau of Agricultural Economics, United States Department of Agriculture, for the period from February 2, 1923, to October 26, 1923, indicate that the average wholesale margin in New York City was approximately 5 per cent, the jobber's margin 5 per cent, and the retail margin approximately 35 per cent, of the consumer's dollar. These percentages represent gross margins, not profits.

[10] An analysis of the retail price of potatoes grown in Maine, Minnesota, Wisconsin, and Michigan, and sold in Boston, Chicago, and Pittsburgh. Preliminary report, U. S. Agr. Dept., Bureau of Agricultural Economics. March, 1924.

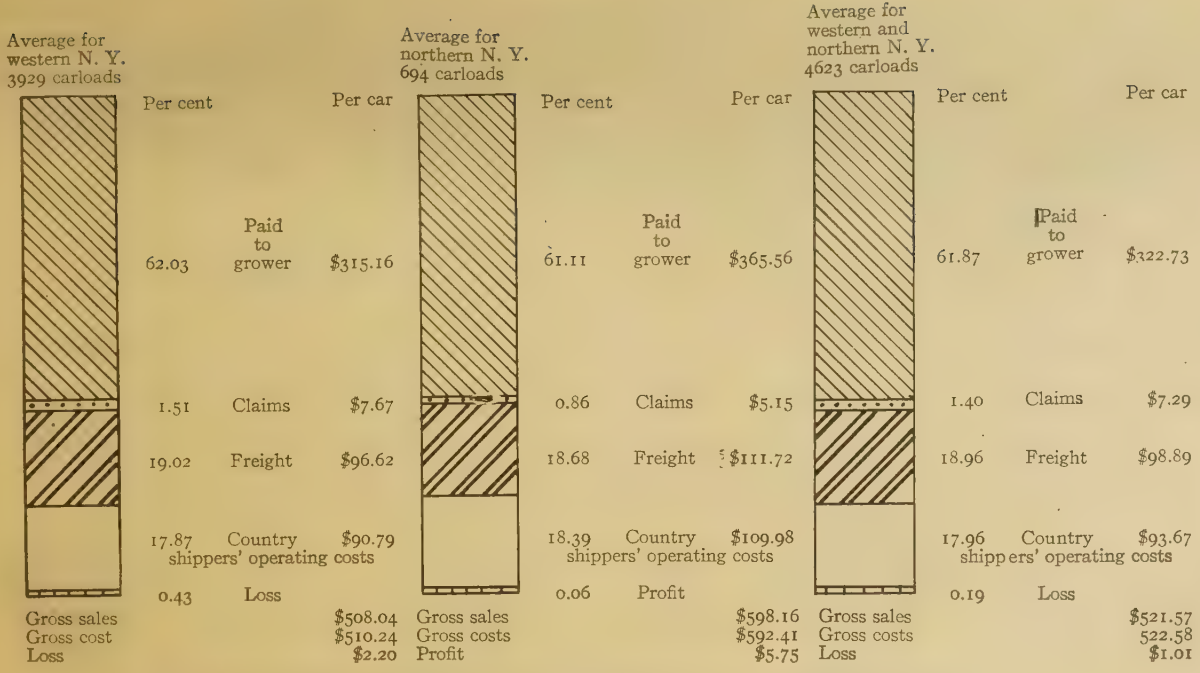
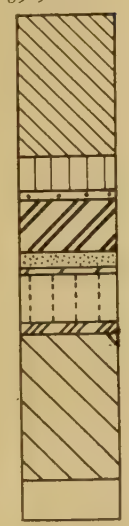


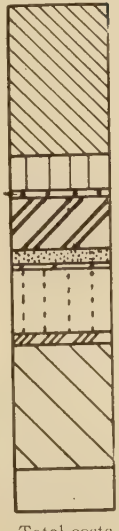
FIGURE 28. DISTRIBUTION OF WHOLESALE PRICE OF POTATOES, 34 SHIPPING AGENCIES, SEASON 1922–23

Data cover 4623 carloads of 600 bushels each. Price is f. o. b. railroad yards at destination



Average for western N. Y. 3929 carloads			Per cent		Per car
			29.89	Labor and management	$27.13
			7.08	Warehouse costs	$6.43
			1.51	Equipment	$1.37
			10.53	General office costs	$9.57
			3.20	Telephone	$2.90
			0.78	Bank exchange	$0.71
			9.01	Brokerage and commissions	$8.18
			2.13	Linings	$1.94
			28.09	Sacks, tags, and twine	$25.50
			7.78	Miscellaneous	$7.06
Total cost					$90.79
Per cent of gross sales			17.87		

Average for northern N. Y. 694 carloads			Per cent		Per car
			29.83	Labor and management	$32.81
			5.85	Warehouse costs	$6.43
			0.67	Equipment	$0.74
			12.98	General office costs	$14.28
			1.53	Telephone	$1.69
			1.45	Bank exchange	$1.59
			26.94	Brokerage and commissions	$29.62
			2.51	Linings	$2.76
			7.05	Sacks, tags, and twine	$7.76
			11.19	Miscellaneous	$12.30
Total costs					$109.98
Per cent of gross sales			18.39		



Average for western and northern N. Y. 4623 carloads			Per cent		Per car
			29.88	Labor and management	$28.00
			6.86	Warehouse costs	$6.42
			1.36	Equipment	$1.27
			10.97	General office costs	$10.27
			2.9	Telephone	$2.72
			0.9	Bank exchange	$0.84
			12.17	Brokerage and commission	$11.40
			2.2	Linings	$2.06
			24.38	Sacks, tags, and twine	$22.84
			8.38	Miscellaneous	$7.85
Total costs					$93.67
Per cent of gross sales			17.96		

FIGURE 29. DISTRIBUTION OF COSTS OF HANDLING POTATOES AT COUNTRY SHIPPING POINTS, SEASON 1922–23

Date cover 4623 carloads of 600 bushels each. Gross sales price f. o. b. railroad yards at destination

Comparatively little, if anything, can be accomplished by the individual shipper or organization in bringing about reductions in freight rates. Increased returns to the grower will probably have to come about in one or more of three ways: (1) through increasing the gross sale price; (2) through decreasing operating costs at the country shipping point; (3) through decreasing the loss from avoidable claims for allowances and deductions. Something may possibly be done, within rather narrow limits, in the way of increasing sales prices in terminal markets through better knowledge of the trade, advertising, and other ways. However, the keen competition between producing areas will not ordinarily permit great variation in this respect.

The most promising means for increasing the gross sales price for up-state New York potatoes probably lies in the standardization of varieties. This is distinctly a grower's problem. One of the shipping agencies reported that the potatoes shipped during the 1921 22 season were about 30 per cent blue sprouts, 30 per cent white sprouts, 30 per cent russets, and 10 per cent Spaulding Rose. All except the Spaulding Rose, a red variety, were mixed and some of the red potatoes were occasionally found with these.

At least two of the areas with which up-state New York competes, Maine and Long Island, yield a highly standardized product. There is often a marked differential between the price paid per bushel for Maine or Long Island potatoes, and that paid for up-state New York potatoes, in the New York City market. For example, on November 8, 1922. Maine potatoes, 180 pounds in bulk, were quoted at from $2.65 to $2.85; Long Island potatoes, 180 pounds in bulk, were quoted at from $2.85 to $3; while State (meaning up-state) potatoes, 180 pounds in bulk, were quoted at from $2.40 to $2.50. Taking another date at random, January 27, 1923, and the same quantity, 180 pounds in bulk, Maine potatoes were quoted at from $3.15 to $3.40; Long Island potatoes were quoted at from $3.25 to $3.65; while up-state potatoes were quoted at from $2.65 to $2.90.[11] Probably not all of this differential may be ascribed to standardization of variety. Some is undoubtedly due to better quality. The expressed opinion of the trade, however, leaves little doubt that the lack of standardization is a severe handicap encountered by up-state New York potato dealers.

A number of the cooperating agencies were emphatic in stating that the trade discriminated against dark-skinned varieties of potatoes, such as the russets. The objections to this type were that they did not sell well in the table-stock market, and that they were difficult to grade.

Operating costs per standard carload of 600 bushels varied from $51.76 to $156.32. This may indicate that some economies can be brought about at the country shipping point.

The average claims and allowances for the various agencies ranged from 29 cents to $36.35 per carload. Some of these claims may be unavoidable, especially those due to severe drops in temperature or to a sharp decline in the market price. Some of the claims are avoidable, such as those due to lax grading, careless lining of cars, insufficient heating of cars, and selling

[11] The Producers' Price-Current, November 8, 1922, and January 27, 1923.

to unknown or unreliable firms. More careful attention to this phase of the potato business would seem to offer fair promise.

An analysis of the records taken has been made for each type of shipper, with the object of calling attention, if possible, to what seem to be the weak points in the business that may be strengthened.

ANALYSIS OF RECORDS OF THE SHIPPING AGENCIES

FARMERS' COOPERATIVE ASSOCIATIONS

Season 1921–22

The records of seven farmers' cooperative potato-shipping associations were studied for the season 1921-22. For the sake of brevity, the term *cooperative* is used hereinafter in discussing farmers' cooperative associations. All of the cooperatives studied were organized under Article 13-A of the Membership Corporations Law of the State of New York. The date of organization and the length of operation of the cooperatives studied are shown in table 21.

TABLE 21. YEAR OF INCORPORATION, LOCATION, AND LENGTH OF OPERATION, 7 COOPERATIVES ASSOCIATIONS, SEASON 1921–22

Cooperative no.	Year of incorporation	County	Years of operation to June 1, 1922
1	1919	Steuben	3
2	1919	Steuben	3
3	1921	Wyoming	1
4	1919	Steuben	3
5	1921	Clinton	1
6	1919	Steuben	3
7	1919	Steuben	3

None of these cooperatives had been in operation longer than three years. In two cases, the year during which the records were obtained was also the first year of operation. The recent establishment and consequent lack of business experience of these organizations should therefore be borne in mind in interpreting the data which follow.

Volume of potatoes shipped

The seven cooperatives studied in 1921–22 received and shipped 25,439,515 pounds of potatoes, or 423,992 bushels, during that season, equivalent to 706 carloads of 600 bushels each. These potatoes actually moved to market in 670 shipments. Of the total volume, 65 standard carloads, or 9.3 per cent, were shipped in bulk, and 641 standard carloads, or 90.7 per cent, were shipped in sacks. Truck sales amounted to 32,550 pounds, or less than one standard carload. Of the entire amount, 24,342,315 pounds, or 95.69 per cent, were sold as United States no. 1 grade, and 1,097,200 pounds, or 4.31 per cent, were sold as United States no. 2 grade.

The average number of destinations to which the cooperatives shipped their potatoes was 27, and the average number of carloads shipped per destination was slightly less than 4. The destinations, on the average, were scattered over 8 States, and the average number of carloads per State was 13.

These cooperatives handled 12.1 per cent of the volume of potatoes shipped by all the agencies studied, and approximately 5 per cent of all up-state potatoes shipped in carloads during the 1921-22 season.

Primary and group operating costs

The items of expense incurred in the handling and shipping of potatoes by these cooperatives in 1921-22 are given in table 22. There is a wide range in the cost of items in the handling of potatoes at country shipping points.

The primary operating costs are grouped, in subsequent tables, into ten classifications in order to facilitate analysis of the records. The operating costs per 600-bushel carload, grouped into these ten classifications, with additional items bearing on returns, are shown in table 23. A full explanation of the manner of allocating costs is given in the appendix.

Labor and management — Cooperative associations employed two methods in paying for labor and management. Two of the cooperatives paid their managers a flat salary regardless of the volume handled, and paid also for all other labor hired for the work of handling the potatoes. Five of the cooperatives paid their managers on a piece-work basis. The amount paid varied from 8 to 12.6 cents, and averaged 9.5 cents per hundredweight handled (table 24). The managers who loaded on this basis were required to hire, and to pay for from their allowance, any extra labor needed in the handling of the potatoes. Whether a salary or a piece-work method was used depended on local conditions and personalities. The piece-work method was evidently an effort on the part of the cooperatives to insure themselves against paying for the large amount of idle time incident to the irregular hauling of potatoes. The successful carrying-out of such a method calls for good managerial ability and a readily available supply of day labor. Where either is lacking, frequent shifts in managers seem likely to occur. More regular hauling of potatoes — "feeding the market," as it is popularly known — might aid in solving this problem. It is difficult to see how the system can be changed in any other way than by providing a larger volume of potatoes per cooperative. Even then, difficult peaks in hauling will occur. This should be recognized by the members of cooperatives in judging the performance of their managers.

The labor and management cost per carload varied from $17.62 to $34.01, with an average of $27.92 (table 23). The average cost for labor and management per carload during the 1921-22 season, on the 5861 carloads handled by the 24 agencies, was $28.64 (figure 27). This figure might be taken as an indication of what, on the average, the potato shipper felt justified in expending for labor and management per carload handled. While the limitations of an average from so small a number of records is clearly recognized, it is suggested that this figure may serve as a guide.

TABLE 22. PRIMARY OPERATING COSTS PER 600-BUSHEL CARLOAD, 7 COOPERATIVE ASSOCIATIONS, SEASON 1921–22

Cooperative no.	1	2	3	4	5	6	7	Weighted averages‡		
Number of 600-bushel cars	86	62	88	115	78	236	41	Per car	Per bushel	Per hundredweight
Labor	$18.60464	$11.61290	$7.21147	$9.99999	$13.49230	$24.27966	$7.31707	$15.84562	$0.02638	$0.04397
Sacks, tags, and twine	19.23151	19.33500	19.59068	21.63373	10.49666	22.00872	14.63487	19.37305	0.03225	0.05376
Rent for warehouse	0.46512	1.29032	9.78647	.....	10.25641	0.18432	1.46341	2.66956	0.00444	0.00740
Taxes on warehouse	0.33953	.....	.....	0.90756	.....	0.75703	0.55756	0.47463	0.00079	0.00131
Insurance:										
Stock	.....	.....	0.10806	.....	0.38461	0.49152	.....	0.22026	0.00036	0.00061
Warehouse	0.34884	.....	.....	0.44999	.....	0.45550	0.82756	0.31611	0.00052	0.00087
Employer's liability	0.53721	.....	0.18181	.....	.....	0.35169	.....	0.20566	0.00034	0.00057
Fuel	0.29070	.....	0.47170	.....	1.18884	0.85099	.....	0.51303	0.00085	0.00142
Light and power	1.87640	0.96774	0.16681	0.53165	.....	1.01118	0.85487	0.80861	0.00134	0.00224
Linings	2.20930	1.61258	0.97363	2.39695	0.50000	2.69618	0.58536	1.91304	0.00318	0.00530
Repairs	2.50511	.....	0.12977	0.77808	.....	0.63559	.....	0.66053	0.00109	0.00183
Supplies	.....	0.17371	.....	0.41304	.....	.....	.....	0.08253	0.00013	0.00022
Miscellaneous operating expenses	0.29070	.....	2.01068	.....	0.41974	0.31779	.....	0.43864	0.00073	0.00121
Depreciation:										
Warehouse	2.88372	.....	.....	1.00869	.....	1.86440	0.60975	1.17422	0.00195	0.00325
Equipment	0.42395	0.16129	0.93499	0.34782	.....	0.31779	0.85365	0.39481	0.00065	0.00109
Officers' salaries	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manager's salary	11.37628	29.58081	15.34091	20.76199	30.76923	5.83368	21.43975	15.87221	0.02642	0.04404
Office salaries	.....	.....	.....	0.26956	.....	2.90677	0.51463	1.04546	0.00174	0.00290
Travel	0.18512	.....	.....	0.48695	0.80743	0.21186	.....	0.27184	0.00045	0.00075
Office supplies	0.93872	0.21839	0.62874	0.41939	0.50897	0.31779	0.66000	0.49094	0.00081	0.00136
Telephone and telegraph	1.80488	1.69032	1.09238	1.44869	1.07307	1.05533	2.55034	1.36022	0.00226	0.00377
Inspection	0.34884	.....	.....	.....	.....	.....	.....	0.04249	0.00007	0.00011
Office rent	.....	0.32258	.....	.....	.....	.....	.....	0.02832	0.00004	0.00007
Brokerage and commissions	9.94767	4.89677	8.03034	2.78260	35.58282	11.98148	7.31707	11.45731	0.01907	0.03179
Advertising and publicity	.....	.....	0.64568	.....	0.15512	.....	.....	0.09762	0.00016	0.00027
Market service	.....	.....	0.02272	.....	.....	.....	.....	0.00283	0.000004	0.000007
Interest on borrowed money	0.69767	1.09194	0.17954	.....	2.15384	0.95338	.....	0.75991	0.00126	0.00210
Interest on investment	4.98639	0.07548	2.21352	2.71252	.....	2.93538	2.39951	2.45236	0.00408	0.00680
Miscellaneous office expenses	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Depreciation on furniture and fixtures	0.31023	.....	.....	0.13043	.....	0.04237	.....	0.07320	0.00012	0.00020
Bad debts	.....	1.21710	.....	.....	.....	.....	.....	0.10688	0.00017	0.00029
Demurrage	0.14093	0.86742	0.32201	0.03478	2.30294	0.05673	.....	0.41262	0.00068	0.00114
Bank exchange	1.57698	0.39403	0.03374	1.53886	1.16307	1.19999	1.62243	1.10542	0.00184	0.00306
Storage	.....	.....	0.51499	.....	.....	.....	.....	0.06419	0.00010	0.00017
Freight, express, and drayage *	.....	2.70581	0.17022	.....	0.44230	0.30499	0.23878	0.42352	0.00070	0.00117
Legal expenses	.....	.....	0.40409	.....	.....	.....	.....	0.05036	0.00008	0.00013
Total operating costs	$82.32044	$78.21419	$71.16567	$66.53468†	$111.87735	$84.03111	$64.45261	$80.79131	$0.13453	$0.22422

* This item covers freight and express on sacks, and so forth, and drayage of potatoes to shipping station only. No freight on cars of potatoes is included.
† Cooperative no. 4 let part of a warehouse for $289.65. This amount is deducted from the total cost ($69.05327 − $2.51859 = $66.53468).
‡ Weighted averages per car, per bushel, and per hundredweight are adjusted according to those made for cooperative no. 4.

TABLE 23. GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 7 COOPERATIVE ASSOCIATIONS, SEASON 1921–22

	Western New York						Average for western New York cooperatives	Northern New York	Average for western and northern New York cooperatives
Cooperative no.	1	2	3	4	6	7		5	
Number of carloads	86	62	88	115	236	41		78	
Labor and management	$30.52	$32.21	$17.62	$25.57	$29.29	$25.22	$27.17	$34.01	$27.92
Warehouse costs	7.51	1.29	9.79	2.11	6.66	4.50	5.71	8.97	6.07
Equipment costs	3.44	0.32	1.32	0.61	0.43	1.66	1.07	1.28	1.09
General office costs	3.15	10.78	8.60	7.31	5.67	5.44	6.52	13.16	7.26
Telephone and telegraph	1.80	1.69	1.09	1.45	1.06	2.56	1.40	1.07	1.36
Bank exchange	1.57	0.39	0.03	1.54	1.20	1.62	1.10	1.16	1.11
Brokerage and commissions	9.95	4.90	8.03	2.78	11.98	7.32	8.46	35.58	11.46
Linings	2.21	1.61	0.97	2.40	2.70	0.59	2.09	0.50	1.91
Sacks, tags, and twine	19.23	19.34	19.59	21.63	22.01	14.63	20.48	10.50	19.37
Miscellaneous	2.94	5.68	4.12	1.13	3.03	0.91	2.94	5.64	3.24
Total operating costs	$ 82.32	$ 78.21	$ 71.16	$ 66.53	$ 84.03	$ 64.45	$ 76.94	$111.87	$ 80.79
Amount paid to growers	539.15	573.89	576.44	532.70	551.41	562.21	552.73	546.56	552.06
Total cost of potatoes to shipper	$621.47	$652.11	$647.60	$599.23	$635.44	$626.66	$629.67	$658.43	$632.85
Gross sales	$741.71	$766.95	$778.85	$636.64	$782.66	$753.94	$746.35	$760.56	$747.93
Claims and allowances	$ 16.34	$ 1.61	$ 0.85	$ 13.20	$ 12.66	$ 12.39	$ 10.50	$ 1.90	$ 9.55
Freight	106.65	118.96	100.46	.....	116.18	98.24	90.50	122.22	94.01
Net sales	$618.72	$646.38	$677.54	$623.44	$653.81	$643.31	$645.35	$636.44	$644.37
Net profit	.....	.....	$29.94	$24.21	$18.38	$16.65	$15.68	.....	$11.52
Net loss	$2.75	$5.73	.....	.....	.....	.....	.....	$21.99	.....

TABLE 24. BASIS OF PAYMENT FOR LABOR AND MANAGEMENT, 7 COOPERATIVE ASSOCIATIONS, SEASON 1921–22

Cooperative no.	Basis of payment of manager	Source of payment for extra hired labor
1	5 cents per bushel, or 9 cents per hundredweight	Manager
2	7 cents per bushel, or 12.6 cents per hundredweight	Manager
3	Salary $1300 per annum	Cooperative
4	9 cents per hundredweight	Manager
5	Salary $3000 per annum	Cooperative
6	5 cents per bushel, or 9 cents per hundredweight	Manager
7	4.4 cents per bushel, or 8 cents per hundredweight	Manager

Warehouse costs.— The warehouse costs varied from $1.29 to $9.79 per carload handled, with an average of $6.07. This included interest on investment, taxes, repairs, insurance, and depreciation on owned warehouses or rental for rented warehouses. One of the cooperatives owned three warehouses; the remaining six used one each. Two cooperatives rented, and the remaining five owned their warehouses (figures 30 and 31). While not so large an item as that of labor and management, overinvestment in warehouses is relatively more serious. If too high a salary or wage is paid the manager one year, the situation can usually be remedied within a year; but if too expensive a warehouse is built or purchased, the consequences must be borne for many years to come, and are likely to become a very heavy burden in a business where, at best, the margin of profit is small. The average investment of these cooperatives was $4324.56 per warehouse, or $55.13 per carload handled (table 14), which meant an average warehouse cost of slightly more than 1 cent a bushel

FIGURE 30. COOPERATIVE POTATO WAREHOUSE AT WALLACE, STEUBEN COUNTY, NEW YORK

Figure 31. Cooperative potato warehouse at Gainesville, Wyoming County, New York

for each bushel handled. The average investment of single-station dealers was $1994.29 per warehouse, or $20.41 per carload; and of many-station dealers, $1445.34 per warehouse, or $37.01 per carload. It is relatively easy to overinvest in a potato warehouse, and an investment of more than $50 per carload in this item should not be made without careful consideration.

While some of these cooperatives were evidently bearing a heavy burden from overinvestment in warehouses, others were showing exceptionally good judgment in handling this problem. One was paying $100 per annum for the rent of a building which could not have been built for less than $1500 or $2000, thus obtaining a warehouse at a very low cost. Another paid $2900 for a brick building which had been erected for other than warehouse purposes and which could not have been built at the time for triple the sum paid for it. Some of the space in this warehouse was rented out, and as a result this cooperative had its warehouse at a very low cost per year.

Equipment costs.— The costs for use of equipment in handling potatoes varied from 32 cents to $3.44 per carload, with an average of $1.09. This variation was due largely to the type of grader used — whether hand- or motor-driven. The higher equipment costs per car with motor-driven graders may be offset by a saving in labor.

Brokerage and commissions.— There was a wide range in the amount of brokerage or commissions paid for selling potatoes. The average selling cost per carload was $11.46, and the range for the different cooperatives was from $2.78 to $35.58 per carload. The highest figure, $35.58 per carload, was due to a different method of selling. This cooperative sold practically all of its potatoes on the joint-account basis, and the $35.58 represents the pay of the joint-account sales agent in the terminal market.

The higher cost of the joint-account method of selling is due to the fact that the joint-account sales agent performs some of the services of the city jobber. He ordinarily gets a higher price than the broker does, and

therefore his higher charge does not usually mean lower net returns to the country shipper.

The six remaining cooperatives, whose average selling cost was $8.46 per carload, sold most of their potatoes either direct or through brokers, and only at rare intervals consigned a car on commission. The standard brokerage fee per car is $10, and thus it is readily seen (table 23) that some cooperatives sold a large proportion of their potatoes direct.

Sacks, tags, and twine.— The cost per carload for sacks was fairly uniform among all the cooperatives. With the exception of two cooperatives, this cost was about $19 or $20 per car. These two cooperatives, nos. 5 and 7, loaded, respectively, 34 per cent and 65 per cent of their potatoes in bulk, which accounts for the relatively low average cost of sacks per car. Practically the only opportunity for variation in the cost of sacks lay in the purchasing of them in very large quantities, or in the use of secondhand sacks. Neither practice was of any consequence with these cooperatives. It is likely that some saving might be effected by pooling the purchases of sacks and twine for a number of cooperatives.

Total operating costs.— The total average cost of handling a 600-bushel carload of potatoes by these associations was $80.79. The highest cost was $111.87, and the lowest was $64.45. The difference between the highest and the lowest cost was equal to about 8 cents a bushel. The highest cost was due largely to the high selling cost incident to the joint-account method. With cooperative no. 5 omitted, the lowest operating cost was $64.45 and the highest was $84.03, with an average of $76.94.

Amount paid to growers.— A low handling or operating cost did not necessarily mean a high return to the grower. It is possible that a low handling cost which was the result of unwise economy may have resulted in smaller returns to the grower than otherwise would have been the case. If a cooperative sold directly at a price much lower than it could have obtained by utilizing the services of a broker, selling direct might well be regarded as a doubtful practice. If economizing on car linings, which are relatively a small item, resulted in a sizable claim for allowances because of damages, such a practice could hardly be considered economical. In comparing results, then, one would need to know not only the total operating expense, but also the amount of claims and allowances per car, the net sales per car, and the amount paid to the growers.

Two methods of payment were used among the cooperatives — cash when the potatoes were delivered to the warehouse, and cash when the returns for the carload of potatoes had been received. Practice in this respect was about equally divided among the cooperatives. The first method, the setting of a daily price, seemed to give the most satisfaction. The grower wishes to know what he is to receive for his potatoes on the day he hauls them, and dislikes having to wait for ten days or two weeks before receiving his money. Some of the cooperatives plan to meet the latter situation by discounting the drafts and advancing a part of the money to the grower on the day he hauls the potatoes, and the remainder when the returns from the entire car have been received. Advocates of the cash-when-delivered method insist that dealer competition forces them to adopt this method. They claim, furthermore, that it is no more burdensome than the other method, since farmers frequently do not demand an immediate settlement on their weigh slips. By discounting

drafts, they manage to keep enough funds on hand to meet the demands of all growers who actually want payment for their potatoes.

The methods used by some cooperatives to figure the price paid to the grower are shown in the following examples.

Example 1 (season 1921–22):

Selling price of 600-bushel carload, delivered at destination, 240 sacks at $3.35 each		$804.00
Freight	$143.47	
Brokerage	10.00	
Bank exchange	1.65	
Loading, at 5 cents per bushel	30.00	
Sacks, 240 at 10 cents each	24.00	
		$209.12
		$594.88
7 per cent deduction for reserve fund[12]		41.64
		$553.24

$553.24 ÷ 600 (bushels) = $0.92, price per bushel paid to grower.

Example 2 (season 1921–22):

Selling price of 600-bushel carload, f. o. b. shipping point, 240 sacks at $3 each		$720.00
7 per cent reserve fund[13]	$50.40	
Loading, at 5 cents per bushel	30.00	
Sacks, 240 at 9 cents each	21.60	
Brokerage	10.00	
Paper and straw for linings	2.00	$114.00
		$606.00

$606 ÷ 600 (bushels) = $1.01, price per bushel paid to grower.

Example 3[14] (season 1922–23):

Selling price of 700-bushel carload, f. o. b. destination, 280 sacks at $2 each		$560.00
Warehouse fund, 3 cents per bushel	$21.00	
Loading, at 4 cents per bushel	28.00	
Sinking fund, 2 cents per bushel	14.00	
Central selling cost, at 8 cents per hundredweight	33.60	
Freight	135.07	
Sacks, 280 at 12½ cents each	35.00	
		$266.67
		$233.33

$233.33 ÷ 700 (bushels) = $0.33, price per bushel paid to grower.

Comparisons of group operating costs and returns on different bases

Bushel basis.— Growers ordinarily think in terms of bushels rather than of carloads. Operating costs and returns calculated on the bushel basis are given in table 25.

Hundredweight basis.— Studies similar to this are being made in other States, in some of which the practice of buying by the hundredweight is very general. In order that the data from this study may readily be compared with data from the other States, the operating costs and returns calculated on the hundredweight basis are given in table 26.

[12] The reserve fund was used to pay all operating expenses except those listed, also claims and allowances and payments on mortgage; it serves further as a true reserve fund.

[13] The reserve fund was used also in this case in a manner similar to that set forth in example 1.

[14] The sinking fund and the balance from the warehouse fund were supposed to cover all operating expenses not listed. The central selling cost covered brokerage, bank exchange, claims and allowances not due to carelessness on the part of the cooperative, advertising, and similar expenses.

TABLE 25. GROUP OPERATING COSTS AND RETURNS PER BUSHEL, 7 COOPERATIVE ASSOCIATIONS, SEASON 1921–22

	Western New York						Weighted average for western New York cooperatives	Northern New York	Weighted average for western and northern New York cooperatives
Cooperative no.	1	2	3	4	6	7		5	
Number of bushels	51,592.5	37,242.5	52,605	69,011	14,1726	24,740		47,075	
Labor and management	$0.05086	$0.05361	$0.02947	$0.04260	$0.04877	$0 04179	$0.04525	$0.05633	$0 04649
Warehouse costs	0.01251	0.00214	0.01637	0.00351	0.01108	0.00745	0 00951	0.01486	0 01010
Equipment costs	0.00573	0 00053	0 00220	0.00102	0.00071	0.00274	0 00178	0.00212	0.00182
General office costs	0.00524	0.01794	0.01438	0.01218	0.00944	0.00902	0 01087	0.02181	0.01208
Telephone and telegraph	0.00300	0.00281	0 00182	0.00241	0.00175	0.00423	0.00232	0 00177	0 00226
Bank exchange	0.00262	0.00065	0.00005	0 00256	0.00199	0.00268	0 00182	0.00192	0 00184
Brokerage and commissions	0.01658	0.00815	0.01343	0 00463	0.01995	0 01212	0 01409	0.05895	0.01907
Linings	0.00368	0.00268	0.00162	0 00399	0.00448	0.00097	0.00347	0.00082	0.00318
Sacks, tags, and twine	0.03205	0 03218	0.03277	0.03605	0.03664	0 02425	0.03411	0.01739	0.03225
Miscellaneous	0.00495	0.00951	0 00693	0.00192	0 00511	0.00156	0.00496	0 00940	0 00544
Total operating costs	$0 13722	$0.13020	$0.11904	$0.11087	$0.13992	$0 10681	$0.12818	$0 18537	$0.13453
Amount paid to growers	0.89871	0 95539	0.96428	0 88769	0.91819	0 93170	0 92095	0 90560	0.91924
Total cost of potatoes to shipper	$1.03593	$1 08559	$1.08332	$0 99856	$1 05811	$1 03851	$1 04913	$1.09097	$1 05377
Gross sales	$1.23676	$1.27679	$1 30289	$1 06089	$1 30326	$1 24945	$1 24354	$1 26019	$1 24539
Claims and allowances	$0 02724	$0.00268	$0.00142	$0.02200	$0.02107	$0 02054	$0.01749	$0 00314	$0.01590
eFr3ight	0.17777	1.19803	0.16804		0 19347	0.16280	0.15079	0.20250	0.15053
Net sales	$1.03175	$1 07608	$1.13343	$1.03889	$1 08872	$1 06611	$1.07526	$1 05455	$1.07296
Net profit			$0.05011	$0.04033	$0 03061	$0.02760	$0 02613		$0.01919
Net loss	$0.00418	$0 00951						$0 03642	

TABLE 26. GROUP OPERATING COSTS AND RETURNS PER HUNDREDWEIGHT, 7 COOPERATIVE ASSOCIATIONS, SEASON 1921–22

	Western New York						Weighted average for western New York cooperatives	Northern New York	Weighted average for western and northern New York cooperatives
Cooperative no.	1	2	3	4	6	7		5	
Number of hundredweights	30,955.5	22,345.5	31,563	41,406.7	85,035.45	14,844.10		28,244.9	
Labor and management	$0.08478	$0.08936	$0.04912	$0.07101	$0.08130	$0.06966	$0.07544	$0.09390	$0.07748
Warehouse costs	0.02086	0.00358	0.02728	0.00585	0.01847	0.01243	0.01585	0.02478	0.01684
Equipment costs	0.00955	0.00089	0.00367	0.00170	0.00119	0.00457	0.00297	0.00354	0.00303
General office costs	0.00874	0.02990	0.02396	0.02030	0.01573	0.01503	0.01811	0.03635	0.02014
Telephone and telegraph	0.00501	0.00468	0.00304	0.00402	0.00292	0.00706	0.00387	0.00296	0.00377
Bank exchange	0.00438	0.00109	0.00009	0.00427	0.00333	0.00448	0.00304	0.00321	0.00306
Brokerage and commissions	0.02763	0.01358	0.02238	0.00772	0.03325	0.02021	0.02349	0.09826	0.03179
Linings	0.00613	0.00447	0.00271	0.00665	0.00748	0.00161	0.00579	0.00138	0.00530
Sacks, tags, and twine	0.05342	0.05364	0.05462	0.06008	0.06108	0.04042	0.05685	0.02898	0.05376
Miscellaneous	0.00815	0.01582	0.01154	0.00318	0.00845	0.00256	0.00823	0.01553	0.00906
Total operating costs	$0.22865	$0.21701	$0.19841	$0.18478	$0.23320	$0.17803	$0.21364	$0.30889	$0.22423
Amount paid to growers	1.49785	1.59232	1.60715	1.47947	1.53030	1.55283	1.53490	1.50935	1.53206
Total cost of potatoes to shipper	$1.72650	$1.80933	$1.80556	$1.66425	$1.76350	$1.73086	$1.74854	$1.81824	$1.75629
Gross sales	$2.06060	$2.12799	$2.17150	$1.76816	$2.17213	$2.08240	$2.07256	$2.10033	$2.07565
Claims and allowances	$0.04540	$0.00447	$0.00237	$0.03666	$0.03513	$0.03423	$0.02916	$0.00523	$0.02650
Freight	0.29629	0.33006	0.28008	.....	0.32245	0.27134	0.25131	0.33751	0.26088
Net sales	$1.71891	$1.79346	$1.88905	$1.73150	$1.81455	$1.77683	$1.79209	$1.75759	$1.78827
Net profit	.....	.....	$0.08349	$0.06725	$0.05105	$0.04597	$0.04355	.....	$0.03198
Net loss	$0.00759	$0.01587	.....	.....	.....	.....	.....	$0.06065	.....

As percentages of total operating costs.— The proportion which the items of operating costs were of the total operating costs varied considerably. Labor and management varied from about 25 per cent to about 41 per cent of the total operating costs, with an average of about 35 per cent (table 27); warehouse costs ran from less than 2 per cent to about 14 per cent, with an average of 7.51 per cent; equipment costs varied within wide

TABLE 27. GROUP OPERATING COSTS AS PERCENTAGES OF TOTAL OPERATING COSTS, 7 COOPERATIVE ASSOCIATIONS, SEASON 1921–22.

	Western New York						Average for western New York cooperatives (per cent)	Northern New York	Average for western and northern New York cooperatives (per cent)
Cooperative no...	1	2	3	4	6	7		5	
Groups	Per cent							Per cent	
Labor and management	37.07	41.19	24.76	38.43	34.87	39.13	35.31	30.40	34.56
Warehouse costs	9.12	1.65	13.75	3.17	7.92	6.98	7.42	8.02	7.51
Equipment costs	4.18	0.41	1.85	0.92	0.51	2.57	1.39	1.15	1.35
General office costs	3.82	13.78	12.08	10.99	6.75	8.45	8.48	11.77	8.98
Telephone and telegraph	2.19	2.16	1.53	2.18	1.25	3.97	1.81	0.96	1.68
Bank exchange	1.92	0.50	0.05	2.31	1.43	2.52	1.43	1.04	1.37
Brokerage and commissions	12.09	6.26	11.28	4.18	14.26	11.35	11.00	31.81	14.18
Linings	2.68	2.06	1.37	3.60	3.21	0.91	2.72	0.44	2.37
Sacks, tags, and twine	23.36	24.72	27.53	32.52	26.19	22.71	26.61	9.38	23.98
Miscellaneous	3.57	7.27	5.80	1.70	3.61	1.41	3.83	5.03	4.02

limits, as did brokerage and commissions, and linings; labor and management, and sacks, tags, and twine, together constituted, on the average, 58.54 per cent of the total operating costs, and these items combined with brokerage and commissions amounted, on the average, to 72.72 per cent of the total operating costs.

As percentages of net sales.— A method of analysis frequently used by commercial concerns is that of expressing costs on the basis of percentage of net sales. Costs for the seven cooperatives calculated on this basis are given in table 28. For every $100 of net sales (gross sales minus claims, allowances, and freight), an average of $4.33 was paid for labor and management, 94 cents for warehouse costs, 17 cents for equipment costs, $1.13 for general office expenses, 21 cents for telephone and telegraph, 17 cents for bank exchange, $1.78 for brokerage and commissions, 30 cents for car linings, $3.01 for sacks, tags, and twine, and 50 cents for miscellaneous expenses. The total operating costs thus constituted, on the average, $12.54 out of each $100 of net sales. Claims and allowances averaged $1.48 for each $100 of net sales. There were, of course, wide variations in these percentages among the different cooperatives studied.

Score cards showing relative standing in efficiency.— In order to furnish an easy basis of comparison, score cards showing the relative standing in efficiency on operating costs and claims for allowances (table 29) and on returns (table 30) were calculated for these seven cooperatives. It was assumed that a cooperative or any other agency must be at least as good as the average, to be efficient. The average items of group cost for the

TABLE 28. GROUP OPERATING COSTS AS PERCENTAGES OF NET SALES, 7 COOPERATIVE ASSOCIATIONS, SEASON 1921–22

	Western New York						Average for western New York cooperatives (per cent)	Northern New York	Average for western and northern New York cooperatives (per cent)
Cooperative no...	1	2	3	4	6	7		5	
Groups	Per cent							Per cent	
Labor and management	4.93	4.98	3.60	4.10	4.48	3.92	4.21	5.34	4.33
Warehouse costs	1.21	0.20	1.45	0.34	1.02	0.70	0.88	1.41	0.94
Equipment costs	0.56	0.05	0.19	0.10	0.07	0.26	0.17	0.20	0.17
General office costs	0.51	1.67	1.27	1.17	0.87	0.85	1.01	2.07	1.13
Telephone and telegraph	0.29	0.26	0.16	0.23	0.16	0.40	0.22	0.17	0.21
Bank exchange	0.25	0.06	.....	0.25	0.18	0.25	0.17	0.18	0.17
Brokerage and commissions	1.61	0.76	1.19	0.45	1.83	1.14	1.31	5.59	1.78
Linings	0.36	0.25	0.14	0.38	0.41	0.09	0.32	0.08	0.30
Sacks, tags, and twine	3.11	2.99	2.89	3.47	3.37	2.27	3.17	1.65	3.01
Miscellaneous	0.47	0.88	0.61	0.18	0.46	0.14	0.46	0.89	0.50
Total operating costs	13.30	12.10	11.50	10.67	12.85	10.02	11.92	17.58	12.54
Claims and allowances	2.64	0.25	0.13	2.12	1.94	1.93	1.63	0.30	1.48

TABLE 29. SCORE CARD OF OPERATING COSTS, AND CLAIMS AND ALLOWANCES, 7 COOPERATIVE ASSOCIATIONS, SEASON 1921–22*

Cooperative no...	1	2	3	4	5	6	7
Groups	Per cent of average						
Labor and management	107	112	62	89	119	102	88
Warehouse costs	121	21	157	34	144	107	72
Equipment costs	328	30	126	58	122	41	158
General office costs	38	129	103	88	158	68	65
Telephone and telegraph	59	55	36	47	35	35	83
Brokerage and commissions	111	55	90	31	398	134	82
Linings	109	80	48	119	25	134	29
Sacks, tags, and twine	97	98	99	110	53	111	74
Miscellaneous	40	77	56	15	76	41	12
Claims and allowances	148	15	8	119	17	115	112
Total score	1,158	672	785	710	1,147	888	775

* The lowest score is the most efficient. Average = 1000.

twenty-four agencies were taken as 100 per cent, and each group cost and the returns of each cooperative were scored on the basis of the percentage of the average for that item. This resulted in weighting the factors to a degree. This method of comparison is not ideal, but it furnishes an approximate basis of comparison for those who desire such a basis.

Total scores give a rough approximation of relative efficiency, but they should not be taken too literally. For example, the most important single reason for the high total score of cooperative no. 5 was the joint-account basis of selling, with the consequent high costs of selling. This is not a weakness, but it should be considered in conjunction with returns. Relatively low costs for linings may be unwise economy. The best use of these score cards lies in the comparison of individual items.

It appears from the score card for costs (table 29) that cooperative no. 2 was, on the whole, the most efficient. But its business organization was not perfect. Its labor and management costs and general office costs were considerably above the average. Cooperative no. 4 ranked close to no. 2 in cost efficiency, but its costs for linings and sacks were above the average, and claims and allowances were high.

In analyzing the score card for returns (table 30), it appears that cooperative no. 3 was the most efficient in this respect. Cooperative no. 2 held

TABLE 30. SCORE CARD OF RETURNS, 7 COOPERATIVE ASSOCIATIONS, SEASON 1921–22*

Cooperative no.	1	2	3	4	5	6	7
Items	Per cent of average						
Amount paid to growers, plus net profit or minus net loss	95	100	107	98	93	101	102
Net sales	96	100	105	97	99	101	100
Total score	191	200	212	195	192	202	202

* The highest score is the most efficient. Average = 200.

fourth rank. It should be noted that the cooperative which has the higher efficiency in costs is not necessarily the one which has the higher efficiency in returns. For example, cooperative no. 4 ranked second in efficiency in costs, but fifth in efficiency in returns.

Season 1922–23

During the 1922–23 season, the records of twelve farmers' cooperative shipping associations were studied including the seven studied during the previous season. All twelve cooperatives were organized under Article 13-A of the Membership Corporations Law of the State of New York. The date of organization and the length of operation of each cooperative are shown in table 31.

At the time when these data were obtained, six of these cooperatives had been in operation for four years and four of them for two years, and two had just completed their first year of operation. All were relatively young in a business sense, although several had managers experienced in handling and shipping potatoes. Cooperatives nos. 101 to 106, inclusive, were of the independent type, that is, they were not affiliated with any other organization. These cooperatives sold their product either directly or through brokers or commission men. Cooperatives nos. 107 to 112, inclusive, were affiliated with the Empire State Potato Growers' Coopera-

TABLE 31. Year of Incorporation, Location, and Length of Operation, 12 Cooperative Associations, Season 1922–23

Cooperative no.	Year of incorporation	County	Years of operation to June 1, 1923
101	1919	Steuben	4
102	1919	Steuben	4
103	1921	Wyoming	2
104	1919	Steuben	4
105	1921	Clinton	2
106	1919	Steuben	4
107	1919	Steuben	4
108	1921	Clinton	2
109	1919	Steuben	4
110	1921	Steuben	2
111	1922	Allegany	1
112	1922	Allegany	1

tive Association, Inc., a central selling organization. These cooperatives bought and loaded the potatoes, and then turned them over to the central selling agency for sale at an agreed commission of 8 cents a hundredweight. This fee was intended to cover brokerage, bank exchange, claims and allowances not due to carelessness on the part of the local cooperative, advertising of the Empire State brand of potatoes, and general organization expenses. The central agency also supplied market news service to its members, and assisted in establishing grading practices.

Volume of potatoes shipped

The twelve cooperatives received and shipped 28,223,944 pounds of potatoes, or 486,906 bushels, during the 1922–23 season, equivalent to 781 carloads of 600 bushels each. These potatoes actually moved to market in 751 shipments. Of the total volume, 87 standard carloads, or about 11 per cent, were shipped in bulk, and 694 standard carloads, or about 89 per cent, were shipped in sacks. Truck sales amounted to 134,550 pounds, or slightly less than four standard carloads.

Of the total volume, 27,752,874 pounds, or 98.33 per cent, were sold as United States no. 1 grade, and 471,070 pounds, or 1.67 per cent, were sold as United States no. 2 grade.

The average number of destinations to which the cooperatives shipped their potatoes was 20, and the average number of carloads shipped per destination was slightly more than 3. The destinations, on the average, were scattered over 5 States, and the average number of carloads per State was 13.5. The older independent cooperatives reached an average of 6 States; the affiliated cooperatives reached an average of 4 States.

These twelve cooperatives handled 17 per cent of the volume of potatoes shipped by all the agencies studied, and approximately 6.5 per cent of all up-state potatoes shipped in carloads during the 1922–23 season.

Primary and group operating costs

The items of expense incurred in the handling and shipping of potatoes by these cooperatives in 1922–23 are given in table 32. Cooperative no.

TABLE 32. PRIMARY OPERATING COSTS PER 600-BUSHEL CARLOAD, 12 COOPERATIVE ASSOCIATIONS, SEASON 1922–23

Cooperative no.	101	102	103	104	105	106	107	108	109	110	111	112	Weighted averages§		
Number of 600-bushel cars	108	31	85	138	114	162	28	19	24	18	43	10	Per car	Per bushel	Per hundredweight
Labor	$16.78222	$23.22580	$11.95647	$14.49275	$24.14184	$23.18574	$21.42857	$34.25105	$10.03125	$12.85833	$12.20186	$16.24500	$18.54761	$1.03085	$0.05125
Sacks, tags, and twine	25.38231	22.18871	26.97035	31.28985	11.97868	31.04963	28.80607	20.76210	27.51833	25.32611	28.83627	40.53900	26.15119	0.04350	0.07227
Rent for warehouse	0.74185	2.58064	0.29411		8.85964	0.35740	2.17857	0.15894		3.33333	3.76744		1.97312	0.00328	0.00545
Taxes on warehouse	0.79814		0.82352	0.83963		0.47666	0.72571	0.78947	2.30791	1.40277			0.59647	0.00099	0.00164
Insurance:															
Stock				0.38224	0.27894	0.37981	1.02500			1.28888	0.32558		0.27176	0.00045	0.00075
Warehouse	0.74111		0.89388			0.66067		2.36842	5.29833				0.55796	0.00092	0.00154
Employer's liability	0.20472		0.26341			0.49382		0.65105			0.37674		0.19624	0.00032	0.00054
Fuel	0.83333	1.83870	1.18223	0.31159	1.29973	0.95679	1.07142	0.63578	1.07333	0.66666	1.16279	1.76700	0.95021	0.00158	0.00262
Light and power	0.34351	0.21387	0.24329	0.31166	0.50824	1.13345	0.14642	0.32000	0.58208		0.81395		0.52324	0.00087	0.00144
Linings	2.41055	1.06548	1.52576	0.60978	3.84035	1.94487	1.25714	3.82368	1.33333	4.51388	0.46511	1.20000	1.93997	0.00322	0.00536
Repairs	0.12805			0.16369		0.77160		6.98263	3.09208		0.04651		0.47474	0.00078	0.00131
Supplies					0.48666					0.39166			0.08016	0.00013	0.00022
Miscellaneous operating expenses	2.41879	2.41935	0.37717	0.10144		0.12623		0.70684			3.47790		0.72528	0.00120	0.00200
Depreciation:															
Warehouse	2.08333		3.10423	0.84057		2.71604	0.89285		4.45833	4.44444			1.61135	0.00268	0.00445
Equipment	0.92592	0.32258	0.99117	1.57971		1.81716	1.14285	2.36842	1.73750	1.19444	1.33720	1.50000	1.17862	0.00196	0.00325
Officers' salaries															
Manager's salary	13.12287	16.69193	15.88235	17.92282	26.31579	6.17284	1.66678	26.31578	21.84166	12.85833	7.69813	16.24500	14.81263	0.02464	0.04093
Office salaries	3.22222			0.32210		4.24907	1.27142				4.20000		1.66282	0.00276	0.00459
Travel				0.60717	2.80701						2.93023		0.69075	0.00114	0.00190
Office supplies	0.37296	0.22451	0.64470	0.29434	0.41710	0.18296	0.42107	0.42421	0.37500	4.24111	0.34883	0.50000	0.43928	0.00073	0.00121
Telephone and telegraph	1.67999	2.21612	1.09552	1.80268		0.92722	0.37428	2.71842	0.27500	2.06000	1.62790	0.90000	1.26757	0.00210	0.00350
Inspection	2.48148	2.32258		0.52173	1.05263	2.41975		0.21052	1.67750		1.95348	2.80000	1.37435	0.00228	0.00379
Office rent		0.64516			.87719				1.33333		0.41860		0.17692	0.00029	0.00048
Brokerage and commissions	9.01620	3.87096	12.35082	5.16101	30.56105	12.15407	27.20107	30.80684	28.84583	25.04055	28.91627	38.98800	15.93843	0.02651	0.04404
Advertising and publicity	1.09861		0.65200				1.83928	0.22368	2.08333				0.35874	0.00059	0.00099
Market service			1.02352										0.11153	0.00018	0.00300
Interest on borrowed money	0.55555	1.30645	2.13047	2.28065	1.32535						1.25581	1.60000	1.04796	0.00174	0.00289
Interest on investment	3.79120	0.68838	6.99952			4.61864	2.95428	7.15105	13.23541	7.64833	0.57279	0.64500	3.17815	0.00528	0.00878
Miscellaneous office expenses			0.08235										0.00897	0.00001	0.00002
Depreciation on furniture and fixtures	0.21490			0.05072		0.06172		0.06578	0.02083		0.31935		0.07110	0.00011	0.00019

| | | |

TABLE 33. GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 12 COOPERATIVE ASSOCIATIONS, SEASON 1922–23

	Western New York										Average for western New York cooperatives	Northern New York		Average for western and northern New York cooperatives
Cooperative no.	101	102	103	104	106	107	109	110	111	112		105	108	
Number of carloads	108	31	85	138	162	28	24	18	43	10		114	19	
Labor and management	$23 55	$34.35	$20 16	$21.06	$28.31	$22 26	$20 95	$10 29	$16 43	$24 36	$23 55	$41 68	$48 06	$26 70
Warehouse costs	7.13	2.58	10.03	3.41	8 45	6.25	23 66	17 00	3 77		7 35	7 80	14 09	7.59
Equipment costs	1 29	0.45	1 37	1.83	2 88	2 25	2 61	1 88	1 71	1 50	1 91	0 97	3 72	1 82
General office costs	12.01	8.73	14 29	10 58	6 42	4.85	10 49	11 22	11 21	10 87	10 36	12 51	16.52	10 83
Telephone and telegraph	1 68	2 22	1 10	1.80	0.93	1 37	1 68	2 06	1 63	0.99	1 45		2 72	1 27
Bank exchange	0.85	0 70	0 21	1 01	0.89						0 64	1 22		0 71
Brokerage and commissions	9 02	3 87	12 35	5 16	12.15	27 20	28 85	25 04	28 92	38 99	12 92	30.56	30 81	15 94
Linings	2 41	1.07	1 53	0 61	1 04	1.20	1.33	4 51	0 47	1 20	1 55	3 84	3 82	1 94
Sacks, tags, and twine	25 38	22.19	26 97	31 29	31.05	28 81	27.52	25 32	28 83	40 54	28 81	11 98	20 76	26 15
Miscellaneous	7.34	16 56	3.44	1.88	5 33	2.02	2 78	1 30	15 69	0 89	5 58	18 24	7 94	7 40
Total operating costs	$ 91 56	$ 92.72	$ 91 45	$ 78 63	$ 98.35	$ 90 27	$125.87	$107 62	$108 66	$125 25	$ 94 12	$128 89	$148 44	$100.53
Amount paid to growers	287 08	331.25	289 18	309 10	296.70	275 86	234 90	332 70	280 61	401 35	296.78	417 73	401 78	317 01
Total cost of potatoes to shipper	$378 64	$423.97	$380.63	$387.79	$395.06	$372.13	$360.77	$440 32	$389.27	$526.60	$390.90	$546 62	$550 22	$417 54
Gross sales	$474.87	$521.02	$481.84	$507.89	$493.13	$483.30	$470 66	$519.69	$481 18	$668 10	$494 48	$703 30	$562 85	$526 66
Claims and allowances	$ 8.43	$ 7.87	$ 0 29	$ 21.11	$16.79	$ 5.48	$ 5.95	$ 1 10	$ 1 60	$ 1 90	$ 11 15	$ 2.33		$ 9 59
Freight	97 70	102.98	100 24	104.43	98.16	105 01	114 63	87 07	93 81	137 01	100 84	101 12	$127 00	101 52
Net sales	$368.74	$410.17	$381 30	$382 35	$378.18	$372.81	$350 08	$431 52	$385 77	$520 25	$382 49	599 84	$435 85	$415 55
Net profit			$0 67			$0 68				$2 65		$53 22		
Net loss	$0 90	$13 80		$5.44	$16.88		$10.69	$8.80	$3.50		$8 41		$114 37	$1.99

104 received $331 rental for the use of part of its warehouse during this season. Cooperative no. 109 received $30 rental on a similar basis. These credits have been deducted from the total primary costs listed in table 32 but not from the individual warehouse costs. In all subsequent tables they have been deducted from group warehouse costs.

The variation in group operating costs and returns per 600-bushel carload for the twelve cooperatives studied during the 1922–23 season are shown in table 33.

Labor and management.— As in the previous season, there was a wide variation in the cost for labor and management, this ranging from $16.43 to $48.06 per carload, with an average of $26.79. This compares closely with the results for the 1921–22 season, the average of which was $27.92 per carload. Three of the cooperatives paid their managers on a salary basis, and nine paid on the basis of the volume handled (table 34).

TABLE 34. BASIS OF PAYMENT FOR LABOR AND MANAGEMENT, 12 COOPERATIVE ASSOCIATIONS, SEASON 1922–23

Cooperative no.	Basis of payment of manager	Source of payment for extra hired labor
101	5 cents per bushel, or 9 cents per hundredweight	Manager
102	7 cents per bushel, or 11.6 cents per hundredweight	Manager
103	Salary $1300 per annum	Cooperative
104	5 cents per bushel, or 9 cents per hundredweight	Manager
105	Salary $3000 per annum	Cooperative
106	5 cents per bushel, or 9 cents per hundredweight	Manager
107	4.8 cents per bushel, or 8 cents per hundredweight	Manager
108	Salary $1000 per annum	Cooperative
109	6 cents per bushel, or 10 cents per hundredweight	Manager
110	4 cents per bushel, or 6.6 cents per hundredweight	Manager
111	4 cents per bushel, or 6.6 cents per hundredweight	Manager
112	4 cents per bushel, or 6.6 cents per hundredweight	Manager

Where straight salaries were paid to the managers, these ranged from $1000 to $3000 per annum regardless of the volume handled. The average salary paid was $1766 per annum. The cooperatives hiring managers on this basis paid also for the additional labor required for handling the potatoes. The rates paid to managers for handling potatoes on the unit basis ranged from 4 cents a bushel (equivalent to 6.6 cents a hundredweight) to 7 cents a bushel (equivalent to 11.6 cents a hundredweight); the average rate paid to managers on the unit basis was 8.5 cents a hundredweight. As in the 1921–22 season, cooperatives evidently preferred to hire managers on the unit-handled basis rather than on the salary basis, since 75 per cent of the managers were so hired.

Warehouse costs.— Eleven of the twelve cooperatives had at least one warehouse. One of them had three and one had two warehouses. One did not use a warehouse, but did entirely a car-door business. The remaining nine cooperatives used one warehouse each. Three of the fourteen warehouses were rented by the cooperatives; the remainder were owned. The average value was $3091.98 per warehouse, or $56.22 per carload

handled. This compares with an average value of warehouses used by single-station dealers of $1916.60 per warehouse, or $32.27 per carload handled, and with an average value for warehouses used by many-station dealers of $1446.62 per warehouse, or $47.62 per carload handled (table 15).

The warehouse cost for these cooperatives averaged $7.59 per 600-bushel carload, or about 1.25 cents per bushel handled; the range was from $2.58 to $17 per carload.

Equipment costs.— The average cost for use of equipment in handling potatoes was $1.82, ranging from 45 cents to $3.72 a carload. Two of the cooperatives installed dumping and grading equipment at the beginning of the 1922–23 season. The remainder used hand-driven or electrically driven graders without dumping attachments.

Brokerage and commissions.— There was a wide range in the amount of brokerage and commissions paid for selling these potatoes. The average selling cost per carload was $15.94, ranging from $3.87 to $38.99. It should be borne in mind, however, that the brokerage and commission charges paid by cooperatives nos. 107 to 112, inclusive, included brokerage and commissions, bank exchange, certain claims and allowances, and sundry services. Cooperative no. 105 sold a large proportion of its potatoes on the joint-account basis, and the charge of $30.56 per carload represents the pay of the joint-account sales agent in the terminal market. For some reason not known to the writer, the brokerage and commission charges per carload paid by cooperatives nos. 101 to 106, inclusive, were higher than during the 1921–22 season.

Sacks, tags, and twine.— The cost of sacks, tags, and twine ranged from $11.98 to $40.54 per carload, with an average of $26.15 per carload. The proportion of potatoes shipped in bulk influenced this cost to some extent. Cooperative no. 105 shipped 52.5 per cent of all its potatoes in bulk; cooperative no. 108, 16.4 per cent; cooperative no. 110, 14.8 per cent; and cooperative no. 101, 14 per cent. Each of the remaining cooperatives shipped less than 8 per cent in bulk. Two shipped all of their potatoes in sacks. Variations in quality and the branding of sacks probably account for some of the range in cost.

Total operating costs.— The total cost of handling a 600-bushel carload of potatoes, for these associations, was $100.53. The highest cost was $148.44 and the lowest was $78.63. The difference between the highest and the lowest cost was equal to 11.6 cents a bushel. Cooperative no. 104, which had the lowest cost during this season, had the second lowest cost in 1921–22.

The total operating costs of the cooperatives that were affiliated with the Empire State Potato Growers' Cooperative Association, Inc., averaged $115.48 per carload; the independent cooperatives averaged $97.20. On the other hand, the bank exchange and the claims and allowances averaged $11.97 a carload for the independent cooperatives, as compared with $2.84 for those affiliated with the central selling association.

Amount paid to growers.—An analysis of the 1922–23 data shows again that a low handling cost does not necessarily mean high returns to the grower. Cooperative no. 105, which had the second highest operating cost, paid the highest amount per carload to the grower. This may have been due to the joint-account method of selling, to the better quality of

the potatoes, or to both causes. The cooperative with the lowest handling cost ranked sixth in returns to the grower. The explanation of some of these facts may be found in the amounts paid for linings or in the amount of claims and allowances per carload.

Comparisons of group operating costs and returns on different bases

Bushel and hundredweight bases. — The group costs and returns are shown on the bushel and hundredweight bases, in tables 35 and 36.

As percentages of total operating costs.— Labor and management constituted, on the average, about 27 per cent of the total operating costs for these twelve cooperatives, the range being from 15 to 37 per cent; sacks, tags, and twine averaged about 26 per cent of the total cost; brokerage and commissions, about 16 per cent; and general office costs, about 11 per cent. The four items mentioned made up approximately 79 per cent of the total operating costs. Variations in these percentages are given in table 37.

As percentages of net sales.— For each $100 of net sales, these cooperatives expended an average of $24.19 for operating expenses, and permitted deductions of $2.31 for claims and allowances (table 38). Labor and management alone took $6.45 of every $100; sacks, tags, and twine, $6.29; and brokerage and commissions, $3.83.

Score cards showing relative standing in efficiency.—An attempt is made in tables 39 and 40 to furnish an easy basis of comparison of the average costs and returns for these cooperatives with those for the thirty-four marketing agencies studied during the 1922–23 season. The average costs and returns for the entire thirty-four agencies were considered as 100 per cent, and each group cost for each cooperative is expressed as percentage of the average.

From the point of view of costs, cooperative no. 103 was probably the most efficient in 1922–23, but it had relatively high warehouse and general office costs. From the point of view of returns, however, this cooperative ranked seventh (table 40). Cooperative no. 102 had the second lowest cost and the fifth highest returns; the labor and management and the miscellaneous costs were relatively high in this case, and claims and allowances were also above average. Cooperative no. 105, which ranked fourth highest in costs and allowances, was highest in returns to the grower. This may have been due either to the joint-account method of selling, to the better quality of the potatoes, or to both causes.

TABLE 35. GROUP OPERATING COSTS AND RETURNS PER BUSHEL, 12 COOPERATIVE ASSOCIATIONS, SEASON 1922–23

	Western New York										Weighted average for western New York cooperatives	Northern New York		Weighted average for western and northern New York cooperatives
Cooperative no.	101	102	103	104	196	107	109	110	111	112		105	108	
Number of bushels	64,607	18,734 5	51,077 5	83,034	97,100	16,920	14,325	10,710	25,918	6,123		68,213	12,144	
Labor and management	$0 03936	$0 05684	$0 03355	$0 03499	$0 01722	$0 03683	$0 03510	$0 03241	$0 02725	$0 03979	$0 03921	$0 06965	$0 07519	$0 04457
Warehouse costs	0 01191	0 00427	0 01669	0 00566	0 01410	0 01035	0 03964	0 02857	0 00025		0 01223	0 01319	0 02204	0 01262
Equipment costs	0 00216	0 00075	0 00228	0 00304	0 00479	0 00371	0 00437	0 00315	0 00284	0 00244	0 00318	0 00161	0 00631	0 00302
General office costs	0 02157	0 01444	0 02378	0 01758	0 01071	0 00802	0 02762	0 01885	0 01859	0 01774	0 01725	0 02091	0 02584	0 01809
Telephone and telegraph	0 00280	0 00366	0 00182	0 00299	0 00154	0 00227	0 00281	0 00346	0 00270	0 00146	0 00241		0 00425	0 00210
Bank exchange	0 00141	0 00116	0 00034	0 00168	0 00148						0 00106	0 00203		0 00118
Brokerage and commissions	0 01507	0 00649	0 02455	0 00857	0 02027	0 04591	0 04832	0 04208	0 04797	0 06367	0 02152	0 05107	0 04819	0 02651
Linings	0 00402	0 00176	0 00253	0 00101	0 00324	0 00208	0 00223	0 00758	0 00377	0 00195	0 00258	0 03641	0 00598	0 00322
Sacks, tags, and twine	0 04242	0 03671	0 04488	0 05209	0 05180	0 04766	0 04610	0 04256	0 04784	0 06621	0 04796	0 02901	0 03248	0 04350
Miscellaneous	0 01233	0 02742	0 00575	0 00316	0 00894	0 00338	0 00469	0 00221	0 02606	0 01130	0 00933	0 03052	0 01195	0 01250
Total operating costs	$0 15305	$0 15341	$0 15217	$0 13068	$0 16499	$0 15931	$0 21088	$0 18087	$0 18027	$0 24455	$0 15673	$0 21549	$0 23223	$0 16722
Amount paid to growers	0 47989	0 54812	0 48123	0 51380	0 49501	0 45650	0 39355	0 55915	0 16355	0 65547	0 49418	0 69811	0 62862	0 52733
Total cost of potatoes to shipper	$0 63294	$0 70153	$0 63349	$0 64448	$0 65910	$0 61581	$0 60443	$0 74002	$0 64582	$0 86002	$0 65091	$0 91351	$0 86085	$0 69155
Gross sales	$0 79381	$0 86212	$0 80184	$0 84409	$0 82272	$0 79977	$0 78854	$0 87342	$0 79831	$1 09122	$0 82338	$1 17536	$0 88961	$0 87697
Claims and allowances	$0 01498	$0 01302	$0 00948	$0 03509	$0 02831	$0 00906	$0 00996	$0 00185	$0 00265	$0 03319	$0 01857	$0 00390		$0 01595
Freight	0 16331	0 17039	0 16681	0 17355	0 16377	0 17376	0 19295	0 14634	0 15564	0 22375	0 16799	0 18899	$0 19870	0 16886
Net sales	$0 61642	$0 67871	$0 63455	$0 63545	$0 63394	$0 61695	$0 58653	$0 72523	$0 64002	$0 86437	$0 63691	$1 00247	$0 68491	$0 69126
Net profit			$0 00115			$0 00114				$0 00435		$0 08896		
Net loss	$0 01652	$0 02282		$0 00903	$0 02816		$0 01799	$ 0 01479	$0 01581		$0 01440		$0 17894	$0 00329

TABLE 36. GROUP OPERATING COSTS AND RETURNS PER HUNDREDWEIGHT 12 COOPERATIVE ASSOCIATIONS, SEASON 1922–23

	Western New York										Weighted average for western New York cooperatives	Northern New York		Weighted average for western and northern New York cooperatives
Cooperative no.	101	102	103	104	106	107	109	110	111	112		105	108	
Number of hundredweights	38,764 4	11,240 7	30,646 5	49,820 3	58,259 9	10,152 28	8,594.8	6,426 1	15,550.58	4,873.5		4,0917 7	6,992 68	
Labor and management	$0.06560	$0.09474	$0.05591	$0.05832	$0.07871	$0.06139	$0.05850	$0.05402	$0.04542	$0.04999	$0.06496	$0.11613	$0.13058	$0.07405
Warehouse costs	0.01985	0.00711	0.02782	0.00944	0.02350	0.01726	0.06607	0.04762	0.01041	.....	0.02028	0 02199	0.03828	0.02098
Equipment costs	0.00360	0.00125	0.00381	0.00507	0.00799	0.00619	0 00728	0.00525	0.00473	0.00307	0.00528	0.00268	0.01010	0 00502
General office costs	0 03596	0.02406	0 03963	0.02930	0.01785	0.01338	0.04603	0.03141	0.03100	0.02230	0.02860	0 03486	0.04488	0.02991
Telephone and telegraph	0 00468	0.00611	0 00303	0 00499	0.00257	0.00379	0.00468	0.00577	0.00450	0.00184	0 00399		0 00738	0 00350
Bank exchange	0 00236	0 00193	0 00056	0 00280	0.00247	.....	.....	.....	.....	.....	0.00177	0.00339	.....	0 00196
Brokerage and commissions	0 02511	0.01067	0.03425	0 01429	0.03379	0.07502	0.08054	0 07014	0.07995	0.07999	0.03568	0 08514	0.08370	0.04404
Linings	0 00671	0 00293	0 00423	0 00168	0 00540	0.00346	0.00372	0.01264	0.00128	0.00246	0 00427	0.01069	0.01038	0 00536
Sacks, tags, and twine	0 07071	0 06119	0.07480	0 08667	0.08633	0.07944	0.07684	0.07094	0.07973	0.08318	0.07953	0.03337	0 05641	0 07227
Miscellaneous	0 02050	0 04570	0 00959	0 00524	0 01487	0.00559	0.00781	0.00366	0.04343	0 01417	0 01552	0 05085	0 02160	0 02073
Total operating costs	$0.25508	$0 25569	$0 25363	$0.21780	$0.27348	$0 26552	$0 35147	$0.30145	$0.30045	$0.25700	$0.25988	$0 35910	$0.40331	$0.27782
Amount paid to growers	0 79982	0 91354	0 80206	0 85634	0.82502	0.76082	0.65593	0.93191	0.77594	0.82352	0 81942	1 16382	1.09170	0 87609
Total cost of potatoes to shipper	$1 05490	$1.16923	$1.05569	$1 07414	$1.09850	$1.02634	$1.00740	$1.23336	$1.07639	$1.08052	$1.07930	$1.52292	$1.49501	$1.15391
Gross sales	$1 32301	$1.43688	$1.33641	$1.40683	$1.37121	$1 33292	$1.31426	$1 45568	$1 33054	$1.37100	$1 36528	$1.95943	$1 52934	$1 45548
Claims and allowances	$0 02348	$0.02170	$0.00081	$0.05849	$0.04668	$0.01510	$0 01661	$0.00308	$0.00441	$0.00389	$0 03079	$0 00650	.....	$0 02651
Freight	0 27219	0.28399	0 27802	0.28926	0.27295	0.28960	0.32009	0 24389	0.25940	0.28112	0 27841	0 28173	$0 34509	0 28054
Net sales	$1 02734	$1.13119	$1.05758	$1.05908	$1.05158	$1.02822	$0.97756	$1.20871	$1.06673	$1 08599	$1.05608	$1 67120	$ 1 18425	$1 14843
Net profit	.....	.....	$0.00189	.....	.....	$0.00188	.....	.....	.....	$0.00547	.....	$0.14828	.....	.....
Net loss	$0.02756	$0.03804	.....	$0.01506	$0.04692	.....	$0 02984	$0.02465	$0.00966	.....	$0 02322	.....	$0 31076	$0 00548

TABLE 37. GROUP OPERATING COSTS AS PERCENTAGES OF TOTAL OPERATING COSTS, 12 COOPERATIVE ASSOCIATIONS, SEASON 1922–23

	Western New York										Average for western New York cooperatives (per cent)	Northern New York		Average for western and northern New York cooperatives (per cent)
Cooperative no.	101	102	103	104	106	107	109	110	111	112		105	108	
Groups	Per cent											Per cent		
Labor and management	25.72	37.05	22.05	26.78	28.78	23.12	16.65	17.92	15.12	19.45	25.02	32.34	32 38	26 65
Warehouse costs	7.78	2.78	10.97	4.34	8.60	6.50	18.80	15.80	3.47	.....	7.81	6.13	9.49	7.55
Equipment costs	1.41	0.49	1.50	2.33	2.92	2.34	2.07	1.74	1.58	1.20	2.03	0.75	2.50	1 81
General office costs	14.10	9.41	15.63	13.45	6.52	5.04	13.10	10.42	10.32	8.68	11.01	9.71	11.13	10 77
Telephone and telegraph	1.84	2.30	1.20	2.29	0.94	1.43	1.33	1.92	1.50	0.72	1.54	.....	1 83	1.26
Bank exchange	0.93	0.76	0.22	1.29	0.91	.....	.....	.....	.....	.....	0 68	0 94	.....	0 71
Brokerage and commissions	9.85	4.18	13.51	6.56	12.36	28.25	22.92	23.27	26.61	31.13	13.73	23.71	20.75	15 86
Linings	2.63	1.15	1.67	0.78	1.98	1.31	1.06	4.19	0.43	0.96	1.65	2.98	2.58	1.93
Sacks, tags, and twine	27.72	23.93	29.49	39.79	31.57	29.92	21.86	23.53	26.53	32.36	30.60	9.29	13.99	26.01
Miscellaneous	8.02	17.86	3.76	2.39	5.42	2.09	2.21	1.21	14.44	5.50	5.93	14.15	5.35	7.45

TABLE 38. GROUP OPERATING COSTS AS PERCENTAGES OF NET SALES, 12 COOPERATIVE ASSOCIATIONS, SEASON 1922–23

	Western New York										Average for western New York cooperatives (per cent)	Northern New York		Average for western and northern New York cooperatives (per cent)
Cooperative no.	101	102	103	104	106	107	109	110	111	112		105	108	
Groups	Per cent											Per cent		
Labor and management	6.39	8.37	5.29	5.51	7.48	5.97	5.98	4.47	4.26	4.61	6.15	6.95	11.03	6.45
Warehouse costs	1.93	0.63	2.63	0.89	2.24	1.68	6.76	3.94	0.98	.....	1.92	1 32	3.23	1 83
Equipment costs	0.35	0.11	0.36	0.48	0.76	0.60	0.75	0 43	0.44	0.28	0.50	0.16	0.85	0 44
General office costs	3.50	2.13	3.75	2.77	1.70	1.30	4.71	2.60	2.91	2.05	2.71	2.09	3.79	2.60
Telephone and telegraph	0.46	0.54	0.29	0.47	0.25	0.37	0.48	0.48	0.42	0.17	0.38	.....	0.62	0.31
Bank exchange	0.23	0.17	0.05	0.27	0.24	.....	.....	.....	.....	.....	0.17	0.20	.....	0 17
Brokerage and commissions	2.45	0.94	3.24	1.35	3.21	7.30	8.24	5.80	7.50	7.37	3.38	5.09	7.07	3 83
Linings	0.65	0.26	0.40	0.16	0.51	0.33	0.38	1.05	0.12	0.23	0.41	0.64	0.88	0 47
Sacks, tags, and twine	6.88	5.41	7.07	8.18	8.21	7.73	7.86	5.87	7.47	7.66	7.53	2.00	4.77	6.29
Miscellaneous	1.99	4.04	0.90	0.49	1.41	0.54	0 79	0.30	4.07	1.30	1.46	3.04	1.82	1.80
Total operating costs	24.83	22.60	23.98	20.57	26.01	25.82	35.95	24.94	28.17	23.67	24.61	21.49	34.06	24 19
Claims and allowances	2.29	1.92	0.08	5.52	4.44	1.47	1.70	2.55	0.41	0.30	2.92	0.39	....	2.31

TABLE 39. SCORE CARD OF OPERATING COSTS, AND CLAIMS AND ALLOWANCES, 12 COOPERATIVE ASSOCIATIONS, SEASON 1922–23*

Cooperative no.	101	102	103	104	105	106	107	108	109	110	111	112
Groups	Per cent of average											
Labor and management	84	123	72	75	149	101	79	172	75	69	59	87
Warehouse costs	111	40	156	53	122	132	97	219	369	265	59	0
Equipment costs	102	35	108	144	76	227	177	293	206	148	135	118
General office costs	126	85	139	103	123	63	47	161	161	109	109	106
Telephone and telegraph	62	82	40	66	0	34	50	100	62	76	60	33
Brokerage and commissions	79	34	108	45	268	107	239	270	253	220	254	342
Linings	117	52	74	30	186	94	61	185	65	219	23	58
Sacks, tags, and twine	111	97	118	137	52	136	126	91	120	111	126	177
Miscellaneous	94	211	44	24	232	68	26	101	35	17	200	88
Claims and allowances	116	108	4	290	32	230	75	0	82	15	22	26
Total score	1,002	867	863	967	1,240	1,192	977	1,592	1,428	1,249	1,047	1,035

* The lowest score is the most efficient. Average = 1000.

TABLE 40. SCORE CARD OF RETURNS, 12 COOPERATIVE ASSOCIATIONS, SEASON 1922–23*

Cooperative no.	101	102	103	104	105	106	107	108	109	110	111	112
Items	Per cent of average											
Amount paid to growers, plus net profits or minus net losses	86	98	90	94	146	87	86	89	69	100	86	125
Net sales	89	99	92	92	144	91	90	105	84	104	93	127
Total score	175	197	182	186	290	178	176	194	153	204	179	252

* The highest score is the most efficient. Average = 200

SINGLE-STATION DEALERS

Season 1921–22

The records of eight single-station dealers were studied for the 1921–22 season. The single-station dealer bought the potatoes for cash from the grower, and assumed all risks of loss involved in the further merchandising to the city wholesalers or receivers. This method of sale differed from that of the cooperatives in that each member of the cooperative automatically carried the risk on his proportional share of the potatoes handled by his association. If any profit were made from the potato-dealing activities of the single-station dealer, the dealer got it. He likewise stood any loss. A cooperative was not supposed to make a profit, but any surplus could be used for the reduction of indebtedness, or could be distributed, on the basis of patronage, as dividends in some form to the members of the cooperative. Losses might likewise be distributed among members by assessment.

Five of the eight single-station dealers were located in Franklin County, two in Clinton County, and one in Steuben County. It was difficult to find single-station dealers in western New York. Most of those who would otherwise have been single-station dealers were employed by a many-station dealer. All but one of the single-station dealers were engaged in other lines of work as well as dealing in potatoes. Four of them dealt in hay, feed, fertilizer, and seeds; one of these four did a large business in farm machinery also, while another gave considerable time to a banking business. One dealer was engaged in a farm-real-estate business, and traded in livestock, Christmas trees, and hay. Two dealers conducted general country stores and shipped a variety of agricultural products, such as calves, eggs, live poultry, and butter, as well as potatoes. The single-station dealer in Steuben County did not engage in any other line of business. All of the dealers had been engaged in the handling of potatoes for a number of years, varying from five to thirty. They probably should be classified as experienced dealers.

Volume of potatoes shipped

During the 1921–22 season, these eight single-station dealers received and shipped 25,248,783 pounds of potatoes, or 420,813 bushels, equivalent to 702 carloads of 600 bushels each. These potatoes actually moved to market in 640 shipments. Of the total volume, 21,314,703 pounds, or 84.4 per cent, were shipped in bulk, and 3,934,080 pounds, or 15.6 per cent, were shipped in sacks. None of the potatoes sold by these single-station shippers were shipped by truck.

Several of the dealers in Franklin County were disturbed by competition on the part of truck operators from cities in St. Lawrence and Jefferson Counties. They stated that these truck operators, who bought only intermittently, went directly to the farms and bought potatoes field-run. This made grading at the shipping point unpopular.

All of the potatoes shipped by these eight dealers during the 1921–22 season were sold as United States no. 1 grade. The dealers bought none of the United States no. 2 grade potatoes, but returned them to the grower together with the culls.

The average number of destinations to which these dealers shipped their potatoes was 11, and the number of carloads shipped per destination was slightly in excess of 8. The destinations, on the average, were scattered over 3 States, and the average number of carloads per State was 34. Seven of the dealers were located in Franklin and Clinton Counties along the Rutland Railroad, which runs through western Vermont and connects at Troy, New York, with the New York Central Railroad. This permitted ready access to the only railroad yards on Manhattan Island, but the long haul to such cities as Philadelphia, Pittsburgh, and Baltimore was a disadvantage. A large proportion of the potatoes shipped by these dealers went to New York City or to points between New York and the shipping stations.

These eight single-station dealers handled 11.9 per cent of the volume of potatoes shipped by all the agencies studied, and approximately 4.9 per cent of all up-state potatoes shipped in carloads during the 1921–22 season.

Primary and group operating costs

The items of expense incurred in the handling and shipping of potatoes by these dealers during the 1921–22 season are shown in table 41.

Labor and management.— The cost of labor and management, as used here, represents all cost of hired labor and compensation for the dealer. An estimate was made by each dealer of the amount that he could earn in similar work. This estimated amount was allocated between labor and management, and general office costs.

The cost of labor and management per carload varied within wide limits (table 42). The lowest cost was $11.84 and the highest was $42.41, the average being $26.75 for the group. The lowest cost was obtained by the dealer who handled the largest volume and had the most diversified business. Judged by the average for all agencies studied in 1921–22, labor and management costs for five of these dealers were relatively high. While diversity in business offers a possibility of making better use of labor, diversity alone does not insure low costs. It seems that several of the dealers were obliged to retain help which was idle for a good share of the time, because they dealt in products that were bought or sold throughout the year. It is necessary to have sufficient volume as well as diversity if low costs are to be obtained.

Warehouse costs.— On the whole, the warehouses used in the northern New York area were rather more substantially built than those in western New York (figures 32 to 35.) This was probably because of the lower winter temperatures in northern New York. One of these dealers did only a car-door business; six had one warehouse each; and one rented a cellar under a store. The warehouse costs averaged $4.28 per carload, and ranged from 70 cents to $9.68. The average investment was $1994.29 per warehouse, or $20.41 per carload handled. A low warehouse cost is not necessarily economical. The dealer whose warehouse cost was only 70 cents per carload rented a cellar which was very inconvenient. There was probably a definite relation between the inconvenience of handling potatoes in that cellar, and the relatively high labor and management cost of this dealer.

TABLE 41. PRIMARY OPERATING COSTS PER 600-BUSHEL CARLOAD, 8 SINGLE-STATION DEALERS, SEASON 1921-22

Dealer no.	26	27	28	29	30	31	32	33	Weighted averages		
Number of 600-bushel cars	81	43	151	103	221	45	40	18	Per car	Per bushel	Per hundredweight
Labor	$17.45506	$29.65116	$17.84092	$21.10194	$ 9.16289	$ 8.24711	$28.90725	$15.55555	$16.22670	$0.02706	$0.04511
Sacks, tags, and twine	0.41358	0.22465	0.95208	0.47087	7.30095	1.79244	15.72725		3.64787	0.00608	0.01014
Rent for warehouse		0.69767	0.45251	0.43689	0.35294	0.22222			0.32952	0.00054	0.00091
Taxes on warehouse	0.44444		0.99337	0.24271	0.27149	0.24577	1.12500		0.40589	0.00077	0.00129
Insurance:											
Stock	1.04938			0.71844			1.50000		0.31190	0.00052	0.00086
Warehouse	0.35580		0.44874	0.13592	0.10859	0.43422	1.00000		0.27652	0.00046	0.00076
Employer's liability	0.25925	1.74418			0.27149				0.22222	0.00037	0.00061
Fuel	7.40740	0.48837	1.92258	1.94174	1.35746	0.56844	16.62500	1.11111	2.68075	0.00447	0.00745
Light and power			0.18079	0.14563	0.21719		0.34500		0.14829	0.00024	0.00041
Linings	1.85185	1.62790	1.19847	4.89320	1.35746	0.78577	2.50000	7.50000	2.10160	0.00350	0.00584
Repairs	1.11111		1.43258	1.94174	0.67873		1.55000		1.02324	0.00170	0.00284
Supplies	0.86419		0.65827	1.14563			0.50000		0.43789	0.00073	0.00121
Miscellaneous operating expenses		0.46511	0.38933		1.13122	0.26888		0.69444	0.50340	0.00083	0.00139
Depreciation:											
Warehouse	1.85185		1.42384	1.45631	0.45248	1.66666	3.12500		1.17521	0.00196	0.00326
Equipment	0.12345	0.27906	0.39735	0.16504	0.33936	0.27777	1.81250	0.55555	0.38319	0.00063	0.00106
Officers' salaries					4.82352				1.51851	0.00253	0.00422
Manager's salary	24.69135	8.37209	22.25165	9.32038		27.99999	22.50000	16.66666	13.01903	0.02171	0.03619
Office salaries	1.97530			3.59223	1.95475				1.35612	0.00226	0.00377
Travel			1.37701		1.13122		2.50000	5.55555	0.93722	0.00156	0.00260
Office supplies	0.61728	0.23255	0.24238	0.09708	0.06787	0.13599	0.12500	0.27777	0.19018	0.00032	0.00054
Telephone and telegraph	0.86419	3.23441	3.40642	0.97087	1.04072	1.20777	4.50000	1.94444	1.88817	0.00314	0.00524
Inspection				0.09708					0.01424	0.00002	0.00003
Office rent	1.11111	2.09302		0.77669		1.05244	2.40000		0.57458	0.00095	0.00159
Brokerage and commissions	45.62382		0.26490	0.69902	22.76040	42.00266	2.50000		16.30441	0.02719	0.04533
Advertising and publicity			0.02039		0.18099				0.06136	0.00010	0.00017
Market service		0.13953	0.00741		0.04524		2.22500	0.27777	0.15829	0.00026	0.00044
Interest on borrowed money	2.22222	6.97674		2.01262	1.35746		1.50000	0.69444	1.64173	0.00273	0.00456
Interest on investment	1.73802	0.07534	1.77629	0.85485	1.12104	5.10777	4.14575	0.36666	1.63863	0.00273	0.00455
Miscellaneous office expenses											
Depreciation on furniture and fixtures	0.12185		0.05192		0.01809				0.03092	0.00005	0.00008
Bad debts					2.26244				0.71225	0.00118	0.00198
Demurrage	0.24691	4.41860	0.59337	0.86601	0.45248	1.81466	0.62500	0.55555	0.85307	0.00142	0.00237
Bank exchange	0.55629		1.43500	0.28242	0.90497		1.52000		0.78582	0.00131	0.00218
Storage						0.26888			0.01723	0.00002	0.00004
Freight, express, and drayage *	0.20148		0.22582			0.88177			0.12834	0.00021	0.00035
Legal expenses				5.82524					0.85470	0.00142	0.00237
Total operating costs	$113.15718	$60.72038	$59.04438	$67.03055	$61.13244	$95.04121	$113.31775	$51.75549	$72.62655	$0.12097	$0.20174

* See first footnote to table 22, page 56.

TABLE 42. GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 8 SINGLE-STATION DEALERS, SEASON 1921–22

	Northern New York							Average for northern New York dealers	Western New York	Average for northern and western New York dealers
Dealer no	26	27	28	29	30	32	33		31	
Number of carloads	81	43	151	103	221	40	18		45	
Labor and management	$42.41	$39.77	$32.68	$25.76	$11.84	$40.22	$28.06	$26.58	$29.25	$26.75
Warehouse costs	5.43	0.70	5.75	5.04	2.53	9.68	.....	4.27	4.52	4.28
Equipment costs	0.18	0.35	0.90	0.19	0.60	3.08	0.92	0.70	0.44	0.68
General office costs	6.07	9.44	8.30	12.14	6.23	17.84	5.42	8.51	11.19	8.68
Telephone and telegraph	0.86	3.23	3.40	0.97	1.04	4.50	1.94	1.93	1.27	1.89
Bank exchange	0.56	.....	1.43	0.28	0.91	1.52	.....	0.84	.....	0.79
Brokerage and commissions	45.62	.....	0.26	6.70	22.76	2.50	.....	14.54	42.00	16.30
Linings	1.85	1.63	1.20	4.80	1.36	2.50	7.50	2.19	0.78	2.10
Sacks, tags, and twine	0.41	0.23	0.95	0.47	7.31	15.73	.....	3.77	1.79	3.65
Miscellaneous	9.77	5.37	5.07	10.58	6.55	15.75	7.92	7.76	3.80	7.51
Total operating cost	$113.16	$ 60.72	$ 59.94	$ 66.93	$ 61.13	$113.32	$ 51.76	$ 71.09	$ 95.04	$ 72.63
Amount paid to growers	514.03	529.63	752.39	487.70	511.09	530.24	488.46	565.00	599.99	567.24
Total cost of potatoes to shipper	$627.19	$590.35	$812.33	$554.63	$572.22	$643.56	$540.22	$636.09	$695.03	$639.87
Gross sales	$731.13	$703.02	$935.65	$716.53	$715.42	$726.04	$613.77	$765.20	$801.36	$767.52
Claims and allowances	$ 2.78	$ 1.40	$ 17.22	$ 36.35	$ 4.52	$ 2.10	$ 2.78	$ 11.82	.....	$ 11.06
Freight	128.00	127.99	121.19	130.41	131.05	122.65	65.21	125.79	$110.95	124.84
Net sales	$600.35	$573.63	$797.24	$549.77	$579.85	$601.29	$545.78	$627.59	$690.41	$631.62
Net profit	.....	.....	.....	.....	$7.63	.....	$5.56	.....	.....	.....
Net loss	$26.84	$16.72	$15.09	$4.86	.....	$42.27	.....	$8.50	$4.62	$8.25

FIGURE 32. DEALER'S POTATO WAREHOUSE AT ELLENBURG STATION, CLINTON COUNTY, NEW YORK

Equipment costs.— The single-station dealers in northern New York had conservative investments in warehouses and equipment as a rule. The equipment, for the most part, consisted of hand graders of the Boggs type, about a dozen baskets and scoops or shovels, and several wooden linings for cars. Power-driven graders were not used by any of the single-station dealers.

Brokerage and commissions.— The great range in selling costs among these dealers was probably due to diversity in methods of selling. Three dealers sold all or a large proportion of their potatoes on a joint-account

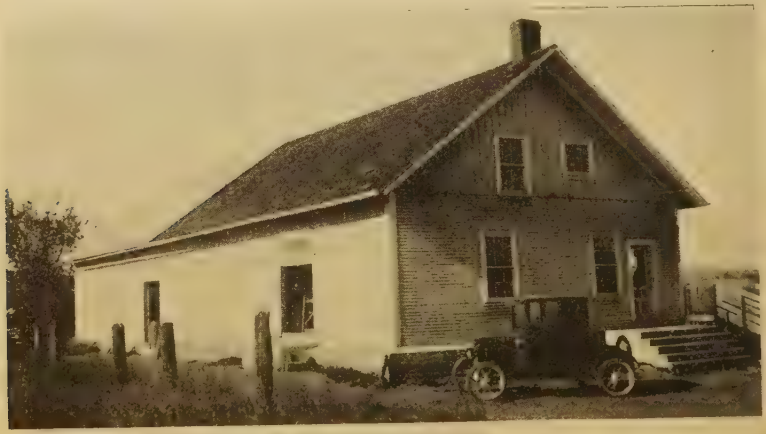


FIGURE 33. DEALER'S POTATO WAREHOUSE AT PERU, CLINTON COUNTY, NEW YORK

Figure 34. Dealer's potato warehouse at Churubusco, Clinton County, New York

basis, and their costs per carload ranged from $22.76 to $45.62. Three sold a large proportion of their potatoes directly to firms with whom they had been dealing for years, and sold the remainder largely on commission or through brokers. Two dealers sold all of their potatoes direct. In both cases, sales were made in cities and villages within a radius of 50 or 75 miles. A considerable number of cars were sold to lumber companies to supply their logging camps. The average cost for brokerage and commissions for the whole group was $16.30 per 600-bushel carload.

Linings.— Lumber bulkheads were placed in every car of potatoes shipped in bulk, and during cold weather all box cars were lined with lumber. This would mean a heavy cost for the lumber if it could not be used again. The practice was to endeavor to have the same car returned several times for reloading, so that the bulkhead or lining cost could be spread over several cars. Lining costs averaged $2.10 a carload, with a range from 78 cents to $7.50.

Figure 35. Dealer's potato warehouse at Chateaugay, Franklin County, New York

Sacks, tags, and twine.— Expenditures for sacks, tags, and twine were relatively insignificant in the cost schedule of single-station dealers. Only two of the dealers used sacks to any extent, and the sacks used were ordinary feed bags costing about 5 cents each. There was no uniformity in size of sack or in number of bushels placed in a sack; the weights of the sacks as shipped varied from 90 to 165 pounds. The sacks were usually not sewed, as in western New York, but were tied with coarse twine. The general prevalence of the joint-account and direct methods of selling potatoes was apparently the reason for the lack of sacking. Many of these carloads went to small towns and villages, where labor costs were probably not higher than at the point of origin. The joint-account sales agents in the terminal markets generally chose to sack the potatoes to meet the preferences of their trade.

Total operating costs.— The variations in the total operating costs, ranging from $51.76 to $113.32, were due largely to the method of selling employed and the costs for labor and management. The average cost was $72.63 per 600-bushel carload. The difference between the highest cost and the lowest cost was equal to about 10 cents a bushel.

Amount paid to growers.— The growers received, on the average, $567.24 per 600-bushel carload, or approximately 94.5 cents a bushel, for the potatoes marketed through these dealers. The average price paid to the grower by the individual dealers varied from $487.70 a carload, or 81 cents a bushel, to $599.99 a carload, or approximately $1 a bushel — a variation of 19 cents a bushel. If the net sales were a reliable criterion, there were wide differences in the ability of these dealers as salesmen. The net sales per carload averaged $631.62 and ranged from $545.78 to $797.24. The dealer who made the highest net sales had been in the potato-shipping business for many years and knew personally a large number of the receivers of his potatoes.

Claims and allowances.— The average for claims and allowances per 600-bushel carload was $11.06. This is approximately the same as the average claims and allowances for the entire twenty-four agencies studied during the 1921–22 season. One dealer, however, had claims averaging $36.35 per carload. Analysis of his records showed a claim for shortage on practically every carload shipped to one large terminal market. The dealer was positive that the full invoiced weight was shipped from the station. He was uncertain as to whether the reported shortage was the result of dishonesty on the part of the wholesale receiver, or theft by potato handlers or railway employees in the terminal market. His experience illustrates one of the risks that the dealer assumes when he buys potatoes outright. In the case of the cooperative, the risk would, of course, be borne by the cooperating growers and would probably result in a reduction in price to them.

Profits and losses.— Only two of the eight single-station dealers made a profit on their potato-shipping business during the season. These two made profits, respectively, of $7.63 and $5.56 per 600-bushel carload, or approximately from 0.9 cent to 1.3 cents a bushel. The remaining six experienced losses ranging from $4.62 to $42.27 per 600-bushel carload. Since compensation for the dealer's own labor is included as a cost, the losses shown may not represent actual cash losses. As long as the loss

does not exceed the value of the dealer's labor, its amount indicates how much less than his estimate he actually received.

Results such as these may show that these dealers do not sufficiently take into account the losses they are likely to encounter through claims and allowances. Their accounting systems were, for the most part, inadequate.

Comparisons of group operating costs and returns on different bases

Bushel and hundredweight bases.— Group operating costs calculated on the bushel and the hundredweight basis, respectively, are given in tables 43 and 44.

As percentages of total operating costs.— The variation in percentages of the items of operating costs are given in table 45. Labor and management constituted about 37 per cent of the total operating costs of these single-station dealers. Brokerage and commissions amounted to about 22 per cent. Other large items were: general office costs, about 12 per cent; and miscellaneous costs, about 10 per cent.

As percentages of net sales.— For every $100 of net sales, these dealers averaged $11.51 for operating expenses and $1.75 for claims and allowances. Labor and management took, on the average, $4.24 out of every $100; brokerage and commissions, $2.58; and general office costs, $1.37. The variations in percentages of the items of cost for the eight dealers are given in table 46.

Score cards showing relative standing in efficiency.— A score card similar to those worked out for the cooperatives is shown in table 47. On the basis of costs alone, dealer no. 27 was probably the most efficient of these eight single-station dealers. His labor and management costs were very high, however, and his general office costs were well above the average. It would probably pay him to watch these items more closely. Dealer no. 30 was second in rank, on the basis of costs. His costs were all below the average, with the exception of brokerage and commissions, which were a great deal above the average.

On the basis of returns to growers, and net sales, dealer no. 28 was the most efficient and dealer no. 31 ranked second (table 48). Dealer no. 27, who ranked first in costs, ranked fifth in returns; dealer no. 30, who ranked second in costs, ranked sixth in returns. With the exception of dealers nos. 28 and 31, all of these single-station dealers were below the general average of all cooperating agencies in returns to growers and in net sales. This may indicate that attention to the selling end of the business is needed.

TABLE 43. GROUP OPERATING COSTS AND RETURNS PER BUSHEL, 8 SINGLE-STATION DEALERS, SEASON 1921–22

	Northern New York							Weighted average for northern New York dealers	Western New York	Weighted average for northern and western New York dealers
Dealer no.	26	27	28	29	30	32	33		31	
Number of bushels	48,589	25,906	90,356	61,537	132,591	24,112	10,807		26,888	
Labor and management	$0.07069	$0.06599	$0.05400	$0.04312	$0.01973	$0.06671	$0.04672	$0.04433	$0.04894	$0.04462
Warehouse costs	0.00904	0.00115	0.00900	0.00844	0.00421	0.01666		0.00711	0.00756	0.00714
Equipment costs	0.00029	0.00058	0.00149	0.00031	0.00100	0.00510	0.00153	0.00116	0.00072	0.00113
General office costs	0.01011	0.01507	0.01386	0.02031	0.01038	0.02960	0.00902	0.01418	0.01872	0.01447
Telephone and telegraph	0.00144	0.00536	0.00569	0.00162	0.00173	0.00746	0.00323	0.00322	0.00212	0.00314
Bank exchange	0.00092		0.00239	0.00047	0.00150	0.00252		0.00124		0.00131
Brokerage and commissions	0.07605		0.00044	0.01121	0.03793	0.00414		0.02425	0.07020	0.02719
Linings	0.00309	0.00270	0.00200	0.00819	0.00226	0.00414	0.01249	0.00305	0.00131	0.00350
Sacks, tags, and twine	0.00068	0.00037	0.00159	0.00078	0.01218	0.02609		0.00029	0.00299	0.00608
Miscellaneous	0.01032	0.00907	0.00851	0.01774	0.01097	0.02616	0.01322	0.01312	0.00641	0.01257
Total operating costs	$0.18863	$0.10089	$0.10017	$0.11219	$0.10189	$0.18798	$0.08020	$0.11855	$0.15906	$0.12115
Amount paid to growers	0.85091	0.87911	1.25737	0.81631	0.85186	0.87963	0.81358	0.94233	1.00415	0.94628
Total cost of potatoes to shipper	$1.04554	$0.98000	$1.35754	$0.92850	$0.95375	$1.06761	$0.89978	$1.06088	$1.16321	$1.06743
Gross sales	$1.21882	$1.16691	$1.56362	$1.19931	$1.10243	$1.20444	$1.02228	$1.27021	$1.34116	$1.28036
Claims and allowances	$0.00493	$0.00232	$0.02878	$0.05083	$0.00754	$0.00348	$0.00462	$0.01071		$0.01845
Freight	0.21338	0.21243	0.20252	0.21828	0.21842	0.20346	0.10860	0.20979	$0.18567	0.20825
Net sales	$1.00081	$0.95216	$1.33232	$0.92019	$0.95647	$0.99750	$0.90906	$1.04071	$1.15549	$1.05366
Net profit					$0.01272		$0.00928			
Net loss	$0.04473	$0.02784	$0.02522	$0.00831		$0.07011		$0.01417	$0.00772	$0.01377

TABLE 44. GROUP OPERATING COSTS AND RETURNS PER HUNDREDWEIGHT, 8 SINGLE-STATION DEALERS, SEASON 1921–22

	Northern New York							Weighted average for northern New York dealers	Western New York	Weighted average for northern and western New York dealers
Dealer no.	20	27	28	29	30	32	33		31	
Number of hundredweights	29,132.6	15,543.8	54,213.58	30,922 47	79,554 73	14,467.0	0,489.95		16,132.7	
Labor and management	$0.11781	$0.11001	$0.09100	$0.07186	$0.03289	$0.11119	$0.07780	$0.07391	$0.08157	$0 07347
Warehouse costs	0.01507	0.00193	0.01601	0.01407	0.00702	0.02676	.....	0.01186	0.01260	0.01190
Equipment costs	0.00049	0.00098	0.00249	0.00052	0.00166	0.00850	0.00255	0.00193	0.00121	0.00188
General office costs	0.01685	0.02611	0.02311	0.03385	0.01730	0.04933	0.01502	0.02365	0.03120	0.02412
Telephone and telegraph	0.00240	0.00894	0.00948	0.00270	0.00289	0.01244	0.00539	0.00536	0.00353	0.00524
Bank exchange	0.00154	.....	0.00399	0.00078	0.00251	0.00420	.....	0.00207	.....	0.00218
Brokerage and commissions	0.12676	.....	0.00073	0.01868	0.06322	0.00691	.....	0.04044	0.11716	0.04533
Linings	0.00514	0.00450	0.00333	0.01365	0.00377	0.00691	0.02080	0.00609	0.00219	0.00584
Sacks, tags, and twine	0.00114	0.00062	0.00265	0 00131	0.02030	0.04348	.....	0.01049	0.00499	0.01014
Miscellaneous	0.02719	0.01488	0.01417	0.02957	0.01826	0.04359	0.02198	0.02189	0.01065	0.02092
Total operating costs	$0.31439	$0.16797	$0.16595	$0 18690	$0.16982	$0.31331	$0.14354	$0.19769	$0.26510	$0.20102
Amount paid to growers	1.42818	1 46516	2.09567	1 36050	1.41078	1.46608	1 35476	1.57121	1.67360	1.57713
Total cost of potatoes to shipper	$1.74257	$1.63313	$2.26262	$1.54749	$1.58960	$1.77939	$1.49830	$1.76890	$1.93870	$1.77815
Gross sales	$2.03136	$1.94483	$2.60604	$1.99894	$1.98740	$2.00744	$1.70229	$2.12793	$2.23528	$2.13394
Claims and allowances	$0.00771	$0.00387	$0.04797	$0.10140	$0.01256	$0.00581	$0.00770	$0.03286	.....	$0.03075
Freight	0.35563	0.35405	0.33754	0 36380	0.36403	0.33911	0.18085	0.34980	$0.30946	0 34709
Net sales	$1.66802	$1.58691	$2.22053	$1.53374	$1.61081	$1.66252	$1.51374	$1.74527	$1.92582	$1.75610
Net profit	.....	.....	.....	.....	$0.02121	.....	$0.01544	.....	.....	.....
Net loss	$0.07455	$0.04622	$0.04209	$0.01375	.....	$0.11687	.....	$0.02363	$0.01288	$0.02205

TABLE 45. GROUP OPERATING COSTS AS PERCENTAGES OF TOTAL OPERATING COSTS, 8 SINGLE-STATION DEALERS, SEASON 1921–22

	Northern New York							Average for northern New York dealers (per cent)	Western New York	Average for northern and western New York dealers (per cent)
Dealer no.	26	27	28	29	30	32	33		31	
Groups	Per cent								Per cent	
Labor and management	37.48	65.49	54.51	38.43	19.38	35.49	54.21	37.39	30.78	36.84
Warehouse costs	4.79	1.15	9.59	7.52	4.14	8.54	.....	6.00	4.75	5.90
Equipment costs	0.16	0.58	1.50	0.28	0.98	2.71	1.78	0.98	0.46	0.93
General office costs	5.36	15.55	13.84	18.11	10.19	15.75	10.47	11.97	11.77	11.95
Telephone and telegraph	0.76	5.33	5.68	1.45	1.70	3.98	3.76	2.72	1.33	2.60
Bank exchange	0.49	.....	2.39	0.42	1.48	1.34	.....	1.18	.....	1.08
Brokerage and commission	40.32	.....	0.44	10.00	37.23	2.21	.....	20.46	44.19	22.45
Linings	1.64	2.68	2.00	7.30	2.22	2.21	14.49	3.08	0.83	2.89
Sacks, tags, and twine	0.37	0.37	1.59	0.70	11.96	13.87	.....	5.31	1.89	5.02
Miscellaneous	8.63	8.85	8.46	15.79	10.72	13.90	15.29	10.91	4.00	10.34

TABLE 46. Group Operating Costs as Percentages of Net Sales, 8 Single-Station Dealers, Season 1921–22

Dealer no.	Northern New York							Average for northern New York dealers (per cent)	Western New York	Average for northern and western New York dealers (per cent)
	26	27	28	29	30	32	33		31	
Groups	Per cent								Per cent	
Labor and management	7.06	6.93	4.10	4.69	2.04	6.69	5.14	4.23	4.23	4.24
Warehouse costs	0.90	0.12	0.72	0.92	0.44	1.61	.....	0.68	0.66	0.69
Equipment costs	0.03	0.06	0.11	0.03	0.10	0.51	0.17	0.11	0.06	0.11
General office costs	1.01	1.65	1.04	2.21	1.07	2.97	0.99	1.36	1.62	1.37
Telephone and telegraph	0.14	0.56	0.43	0.18	0.18	0.75	0.36	0.31	0.19	0.30
Bank exchange	0.09	.....	0.18	0.05	0.16	0.25	.....	0.13	.....	0.12
Brokerage and commissions	7.60	.....	0.03	1.22	3.93	0.42	.....	2.32	6.08	2.58
Linings	0.31	0.28	0.15	0.89	0.23	0.42	1.37	0.35	0.11	0.33
Sacks, tags, and twine	0.07	0.04	0.12	0.08	1.26	2.62	.....	0.60	0.26	0.58
Miscellaneous	1.63	0.94	0.64	1.92	1.13	2.62	1.45	1.24	0.55	1.19
Total operating costs	18.84	10.58	7.52	12.19	10.54	18.86	9.48	11.33	13.76	11.51
Claims and allowances	0.46	0.24	2.16	6.61	0.78	0.35	0.51	1.88	.....	1.75

TABLE 47. SCORE CARD OF OPERATING COSTS, AND CLAIMS AND ALLOWANCES, 8 SINGLE-STATION DEALERS, SEASON 1921–22*

Dealer no.	26	27	28	29	30	31	32	33
Groups	Per cent of average							
Labor and management	148	139	114	90	41	102	140	98
Warehouse costs	87	11	92	81	41	73	156	0
Equipment costs	17	33	86	18	57	42	293	88
General office costs	73	113	99	145	75	134	214	65
Telephone and telegraph	28	105	111	32	34	41	147	63
Brokerage and commissions	511	0	3	75	255	470	28	0
Linings	92	81	59	243	67	39	124	371
Sacks, tags, and twine	2	1	5	2	37	9	80	0
Miscellaneous	132	72	68	143	88	51	212	107
Claims and allowances	25	13	156	329	41	0	19	25
Total score	1,115	568	793	1,158	736	961	1,413	817

* The lowest score is the most efficient. Average = 1000.

TABLE 48. SCORE CARD OF RETURNS, 8 SINGLE-STATION DEALERS, SEASON 1921–22*

Dealer no.	26	27	28	29	30	31	32	33
Items	Per cent of average							
Amount paid to growers	91	93	133	86	90	106	94	86
Net sales	93	89	124	85	90	107	93	85
Total score	184	182	257	171	180	213	187	171

* The highest score is the most efficient. Average = 200.

Season 1922–23

For the 1922–23 season, records were obtained from ten single-station dealers, of whom six were included also in the 1921–22 study. Three of the ten dealers were located in Franklin County, two in Clinton County, two in Steuben County, one in Onondaga County, and one in Tioga County. All but two were engaged in other lines of work as well as in the shipping of potatoes. Six dealt in feed, fertilizer, and seed, and two of these six conducted general stores also. One dealer received and shipped a great variety of agricultural products in addition to potatoes, including hay, live poultry, eggs, and veal calves. Two dealers held agencies for well-known makes of automobiles. One engaged in horse-trading, bought and sold farm real estate, operated a farm, and shipped hay as well as potatoes. One had a large hay-shipping business, combined with a retail coal and feed business. With one exception, all of these dealers had been engaged in shipping potatoes for a number of years.

Volume of potatoes shipped

The ten single-station dealers received and shipped 21,477,622 pounds of potatoes, or 357,961 bushels, during the 1922–23 season, equivalent to 595 carloads of 600 bushels each. These potatoes actually moved to market in 448 shipments. Bulk shipments made up 10,823,002 pounds, or 50.4 per cent of the volume handled by these dealers, and 10,654,667 pounds, or 49.6 per cent, were shipped in sacks. Only 12,000 pounds were shipped by truck.

Dealers west of Malone, at points along the Rutland Railroad, stated that truck operators from cities in St. Lawrence and Jefferson Counties had made serious inroads on their business during the 1922–23 season. In some cases the business of the local shipper was practically wiped out. Trucks were reported to have come from cities as far away as Syracuse, about 190 miles distant. Apparently the trucking business is increasing and must be reckoned with in the future. As previously stated, these truck operators went directly to the farms and bought potatoes field-run, ungraded. The ability to sell their potatoes in this manner made the growers reluctant to be paid on a graded basis when they sold to the local dealers. The local dealers pointed out that the trucks operated only when there was little danger of loss from freezing. As a result, these dealers received only a small volume during the period of the year when risks from loss in transit were low, and they were called upon to receive a relatively large volume of their total business when temperatures were low, risks from loss were high, and considerable expense had to be incurred in lining cars. Under these circumstances, several of the dealers were indifferent toward the potato-shipping business. It seems possible that under such conditions the trucking of potatoes may deprive the grower of the service of the local dealer during the time of the year when trucks do not operate.

Only one carload of the 595 handled by these ten dealers was made up of potatoes of the United States no. 2 grade, or seconds. The remaining 594 carloads, or 99.83 per cent of the whole, were sold as United States no. 1, or firsts. The potatoes shipped reached a maximum of 7 States, and, on the average, went to 4 States. The average number of destinations reached per dealer was approximately 13, with an average of slightly more than 3 destinations per State.

Because of the relatively short crop of potatoes in Maine, a large proportion of the potatoes shipped by these dealers went to New England and eastern New York.

These ten single-station dealers handled 13 per cent of the volume of potatoes shipped by all of the agencies studied, and approximately 5 per cent of all up-state potatoes shipped in carloads during the 1922–23 season.

Primary and group operating costs

The items of expense per 600-bushel carload incurred in the handling and shipping of potatoes by these dealers during the 1922–23 season are given in table 49.

Labor and management.— The labor and management costs per 600-bushel carload varied even more widely among the single-station dealers

TABLE 49. PRIMARY OPERATINGS COSTS PER 600-BUSHEL CARLOAD, 10 SINGLE-STATION DEALERS, SEASON 1922–23

Dealer no.	126	127	128	129	130	131	134	135	136	137	Weighted averages		
Number of 600-bushel cars	93	26	87	69	132	41	14	31	37	74	Per car	Per bushel	Per hundredweight
Labor	$20 39354	$42 76923	$24 28046	$22 03333	$14 96969	$12 34536	$11 82499	$17 44387	$24 66216	$11 81776	$19 19071	$0 03189	$0 05316
Sacks, tags, and twine	4 68817	9 38461	7 64310	3 28333	11 36363	12 91268	18 65928	20 26580	28 89378	17 49283	11 46954	0 01906	0 03177
Rent for warehouse		1 15384	0 70701	0 75000	0 59090	0 24390				6 08108	1 13363	0 00188	0 00314
Taxes on warehouse	0 38709		1 04356	0 41666	0 45454	0 16097	2 49999	1 35322	0 15756		0 50616	0 00084	0 00140
Insurance:													
Stock	0 45806			0 61666							0 13378	0 00022	0 00037
Warehouse	0 30989		0 68965	0 23333	0 18181	0 38585	0 23785	0 69774	0 07189		0 28615	0 00047	0 00079
Employer's liability	0 30107	2 88461	0 09195		0 45454				0 45027	0 27027	0 34900	0 00058	0 00096
Fuel	6 45161	1 73076	5 78793	2 50000	2 27272	0 67414	0 49999		0 90081	1 39189	2 97398	0 00494	0 00823
Light and power			0 56172	0 25000	0 36363			0 15806		0 25675	0 22818	0 00037	0 00063
Linings	1 61290	5 38461	1 92011	5 00000	2 27272	1 45073	5 49999	2 83870	1 22972	4 60554	2 80309	0 00465	0 00776
Repairs	0 96774		0 21942	2 50000	1 13636			0 25322			0 70073	0 00116	0 10094
Supplies	0 75268		0 22712	1 46666							0 29875	0 00049	0 00082
Miscellaneous operating expenses		0 84615	0 01459		1 89393		1 85714	7 55387	12 76162		1 69011	0 00280	0 00468
Depreciation:													
Warehouse	1 72043		2 20689	2 50000	1 13636	1 82926	5 34285	6 91935	0 44594		1 73579	0 00288	0 00480
Equipment	0 10752	0 46153	0 68965	0 23333	0 56818	0 30487	0 42857	2 61870	0 78375		0 50366	0 00083	0 00139
Officers' salaries	21 50537		29 31034		8 07575						9 43865	0 01568	0 02614
Manager's salary		13 84615		11 00000		30 73170	8 35714	10 80000	16 21621	13 51351	7 28033	0 01210	0 02016
Office salaries	1 61290			6 16666	3 27272			4 00000			1 80840	0 00300	0 00500
Travel			0 36390		1 89393	0 05268		2 52838			0 60873	0 00101	0 00168
Office supplies	0 53763	0 38461	0 13402	0 16666	0 11363	0 19219			0 44594	0 20270	0 22863	0 00038	0 00063
Telephone and telegraph	0 75268	3 65999	2 92413	0 83333	1 74242	1 93439	1 78571	3 87806	1 12594	2 29878	1 90900	0 00317	0 00528
Inspection				0 13333						2 32432	0 30252	0 00050	0 00083
Office rent	0 96774	2 69230		0 83333		0 94243				2 02702	0 66998	0 00111	0 00185
Brokerage and commissions	89 21204			8 39666	18 44689	57 66000	0 71428	7 26677	4 05405	8 64864	24 57955	0 04085	0 06809
Advertising and publicity			0 02298		0 30303						0 07058	0 00011	0 00019
Market service		0 23076			0 07575		1 07142				0 05210	0 00008	0 00014
Interest on borrowed money	0 96774	5 76923		5 00000	2 27272			2 94903			1 56541	0 00260	0 00433
Interest on investment	1 54741	0 09692	2 71000	1 30200	1 79363	5 47487	6 31999	7 23032	1 80405		2 18641	0 00363	0 00605
Miscellaneous office expenses													
Depreciation on furniture and fixtures	0 23451		0 06678		0 06060			0 47193	0 02702		0 08613	0 00014	0 00023
Bad debts			9 19540		3 78787			10 94580		0 14189	2 77280	0 00460	0 00768
Demurrage	0 06451	4 99999	0 64367	0 83333	0 75757	1 65853					0 68907	0 00114	0 00190
Bank exchange	0 41494		4 68747	0 33650	1 51515		0 37142	0 21451	0 55405	0 86027	1 28168	0 00213	0 00355
Freight, express, and drayage*	0 35645		1 02218			1 47658				0 06756	0 31532	0 00052	0 00087
Total operating costs	$156 32462	$96 29529	$97 16403	$76 78510	$81 77067	$130 43113	$65 47061	$110 38733	$94 58476	$72 00075	$99 84855	$0 16581	$0 27644

* See first footnote to table 22, page 56.

in 1922-23 than in the previous season (table 50). The average costs were $29.50 per carload and the range was from $16 to $52.58. This greater variation may be due to the fact that, with one exception, all of the dealers handled fewer carloads during the second season; in several cases the volume was approximately 50 per cent of that handled during the 1921–22 season. It is a curious fact that while the production of potatoes in New York as a whole was larger in 1922 than in 1921, the production in the areas studied in 1922 was actually below that of the preceding year. If, then, expecting a normal crop, a dealer had hired labor for the winter, it is possible to understand the relatively large outlay for labor and management during the season. Dealers who attempted to maintain their working gang under such conditions almost inevitably had high costs per car. The trucking of potatoes in the northern area may have had some influence on this factor. The costs for labor and management were approximately $6 less per car in western than in northern New York.

Warehouse costs.— The average warehouse costs per carload handled during the 1922-23 season were about 26 per cent higher than in the previous season. This was probably a result of the reduction in the volume handled. The warehouse costs averaged $5.71 per carload, with a range from $1.15 to $13.30. The average investment was $1916.60 per warehouse, or $32.27 per carload handled. This compares with an average investment of $3091.98 per warehouse, or $56.22 per carload, for the cooperatives, and $1446.62 per warehouse, or $47.62 per carload, for the many-station dealers (table 15, page 36).

Brokerage and commissions.— Two of these dealers sold all of their potatoes direct, largely to near-by cities and villages. Two sold the bulk of their potatoes on the joint-account basis and had very high selling costs, $57.66 and $89.21 per carload, respectively. The average selling cost for these ten dealers was $24.58 per carload, with a range from 72 cents to $89.21.

Sacks, tags, and twine.— The expenditures of the northern New York dealers for sacks were relatively low, since they shipped from 45 to 89 per cent of their potatoes in bulk. Where sacks were used, they consisted largely of secondhand feed and even fertilizer sacks. These sacks were shipped with contents varying from 90 pounds to 165 pounds, and were usually tied with heavy twine and not sewed. One of the dealers, who shipped some of his potatoes south and west, used new 150-pound sacks. The western New York dealers commonly used sacks. Two of them shipped no potatoes in bulk, and the remaining three shipped from 43 to 57 per cent of their potatoes in sacks. All of these dealers used new 150-pound sacks, which were carefully sewed before shipping.

Linings.— The care taken in lining cars as protection against damage of all kinds varied considerably. The average cost per carload was $2.80, and the range was from $1.23 to $5.50. Oddly enough, the northern New York dealers spent comparatively less for car linings than did the dealers in western New York. The relative difference in winter temperatures would lead one to expect the reverse. The two dealers who had the highest cost per carload for linings were the only two in this group who had no claims for allowances and deductions.

TABLE 50. GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 10 SINGLE-STATION DEALERS, SEASON 1922-23

	Northern New York					Average for northern New York dealers	Western New York					Average for western New York dealers	Average for northern and western New York dealers
Dealer no.	126	127	128	129	130		131	134	135	136	137		
Number of carloads	93	26	87	60	132		41	14	31	37	74		
Labor and management	$31.45	$52.58	$46.36	$27.53	$19.46	$31.52	$35.39	$16.00	$22.84	$33.22	$18.84	$25.42	$29.50
Warehouse costs	4.66	1.15	7.10	7.68	4.57	5.39	4.65	13.06	13.30	1.77	5.41	6.35	5.71
Equipment costs	0.15	0.56	0.90	0.26	0.97	0.63	0.46	2.53	3.33	1.47	0.68	1.33	0.86
General office costs	15.31	16.00	8.99	17.83	10.46	12.74	12.11	6.34	15.26	8.96	9.66	10.68	12.06
Telephone and telegraph	0.75	3.66	2.92	0.83	1.74	1.76	1.94	1.79	3.88	1.13	2.30	2.21	1.91
Bank exchange	0.41	.....	4.69	0.34	1.52	1.67	.....	0.37	0.21	0.55	0.86	0.49	1.28
Brokerage and commissions	89.21	.....	.....	8.40	18.45	28.23	57.66	0.72	7.27	4.05	8.65	17.20	24.58
Linings	1.61	5.38	1.92	5.00	2.27	2.66	1.45	5.50	2.84	1.23	4.61	3.10	2.80
Sacks, tags, and twine	4.69	9.38	7.64	3.28	11.36	7.64	12.91	18.66	20.27	28.89	17.49	19.20	11.47
Miscellaneous	8.08	7.58	16.64	5.63	10.97	10.51	3.86	0.50	21.19	13.31	3.50	7.99	9.67
Total operating costs	$156.32	$96.29	$97.16	$76.78	$81.77	$102.75	$130.43	$65.47	$110.39	$94.58	$72.00	$93.97	$99.84
Amount paid to growers	328.01	393.75	377.98	301.17	332.21	340.57	437.28	298.53	277.12	329.77	300.45	330.63	337.28
Total cost of potatoes to shipper	$484.33	$490.04	$475.14	$377.95	$413.98	$443.32	$567.71	$364.00	$387.51	$424.35	$372.45	$424.60	$437.12
Gross sales	$612.88	$550.91	$605.84	$514.44	$575.92	$580.20	$688.83	$458.57	$496.35	$536.60	$473.23	$532.60	$564.14
Claims and allowances	$ 1.61	.....	$ 11.55	$ 4.86	$ 12.12	$ 7.65	.....	$ 0.07	$ 13.09	$ 4.05	$ 1.15	$ 3.20	$ 6.20
Freight	108.09	$102.92	108.77	115.88	119.51	113.00	$102.21	71.90	114.87	120.59	101.68	105.30	110.45
Net sales	$502.58	$447.99	$485.52	$393.70	$444.29	$459.54	$586.62	$386.60	$368.39	$411.96	$370.40	$424.04	$447.79
Net profit	$18.25	.....	$10.38	$15.75	$30.31	$16.22	$18.91	$22.60	.....	.....	.....	.....	$10.67
Net loss	.....	$42.05	.....	.....	.....	.....	.....	.....	$19.12	$12.39	$2.05	$0.56	.....

Total operating costs.— The cost of handling a 600-bushel carload of potatoes, for these ten dealers, averaged $99.84, with a range from $65.47 to $156.32. This compares with an average cost of $72.63, and a range from $51.76 to $113.32, for the eight single-station dealers during the 1921-22 season. The average cost in 1922 23 for the five northern New York dealers was $102.75, and for the five western New York dealers $93.97. The outstanding differences were in the costs for labor and management, brokerage and commissions, and sacks. The cost for sacks, tags, and twine for the northern New York dealers averaged $7.64 per carload. Western New York dealers expended an average of $19.20 per carload for sacks. The difference between the highest and the lowest operating cost for these dealers in this season was $90.85 per carload, or approximately 15 cents per bushel.

Amount paid to growers.— The amount paid to growers for their potatoes by these ten dealers averaged $337.28 per carload of 600 bushels, and ranged from $277.12 to $437.28, a difference of about 27 cents a bushel. The highest price paid, however, was for exceptionally good stock which went to points in Pennsylvania for use as seed. The average price paid to growers in western New York was approximately 55 cents a bushel, and to growers in northern New York 57 cents a bushel. The average net sales of the two dealers who sold on the joint-account basis were respectively $502.58 and $586.62 per carload; the average for all the ten dealers was but $447.79.

Claims and allowances.— Claims and allowances were about twice as high for the northern New York dealers as for the western New York dealers, the respective figures being $7.65 and $3.26 per carload. This may have been due to lower temperatures or to many other causes. The northern New York dealers expended a little less for car linings, and probably did not grade so well as did their competitors in western New York. The average amount of claims and allowances per carload was $6.20, with a range from 0 to $13.09.

Profits and losses.— Six of the ten single-station dealers made profits ranging from $10.38 to $30.31 per carload; four dealers had losses ranging from 56 cents to $42.05 per carload. The average profit of the ten dealers was $10.67 per carload, or approximately 1.8 cents per bushel. Four of the five dealers in northern New York made a profit, while only two of the five in western New York were so fortunate. The dealer who made the largest profit was the one with the largest and most diversified business; his costs were relatively low, since there were so many opportunities for profitable employment in his business that little time was lost.

Comparisons of group operating costs and returns on different bases

Bushel and hundredweight bases.— Costs and returns, calculated on the bushel and the hundredweight basis for the ten dealers, are given in tables 51 and 52.

As percentages of total operating costs.— Labor and management made up approximately 30 per cent of the cost of handling potatoes by these ten dealers (table 53). This percentage varied with the individual dealers, from 20 to about 55 per cent. Warehouse costs were nearly 6 per cent of the total. General administration expenses amounted to slightly over

TABLE 51. GROUP OPERATING COSTS AND RETURNS PER BUSHEL, 10 SINGLE-STATION DEALERS, SEASON 1922-23

	Northern New York					Weighted average for northern New York dealers	Western New York					Weighted average for western New York dealers	Weighted average for northern and western New York dealers
Dealer no.	126	127	128	129	130		131	134	135	136	137		
Number of bushels	55,944	15,876	52,323	36,101	79,129		24,475	8,476	18,883	22,120	44,534		
Labor and management	$0.05227	$0.08610	$0.07707	$0.04575	$0.03215	$0.05240	$0.05929	$0.02612	$0.03750	$0.05556	$0.03131	$0.04221	$0.04903
Warehouse costs	0.00774	0.00188	0.01180	0.01275	0.00762	0.00805	0.00778	0.02132	0.02184	0.00296	0.00898	0.01055	0.00938
Equipment costs	0.00024	0.00091	0.00150	0.00043	0.00162	0.00104	0.00076	0.00413	0.00546	0.00245	0.00112	0.00220	0.00143
General office costs	0.02545	0.02620	0.01405	0.02963	0.01744	0.02110	0.02028	0.01035	0.02504	0.01498	0.01605	0.01774	0.02005
Telephone and telegraph	0.00125	0.00599	0.00486	0.00138	0.00290	0.00292	0.00324	0.00291	0.00636	0.00188	0.00381	0.00367	0.00317
Bank exchange	0.00068		0.00779	0.00055	0.00252	0.00278		0.00066	0.00035	0.00092	0.00142	0.00080	0.00213
Brokerage and commissions	0.14830			0.01395	0.03077	0.04693	0.09659	0.00116	0.01192	0.00678	0.01437	0.02869	0.04085
Linings	0.00268	0.00881	0.00319	0.00831	0.00379	0.00441	0.00243	0.00897	0.00466	0.00205	0.00765	0.00515	0.00465
Sacks, tags, and twine	0.00779	0.01536	0.01270	0.00545	0.01895	0.01270	0.02163	0.03046	0.03327	0.04833	0.02906	0.03189	0.01966
Miscellaneous	0.01347	0.01245	0.02769	0.00941	0.01834	0.01752	0.00649	0.00835	0.03482	0.02230	0.00586	0.01323	0.01611
Total operating costs	$0.25987	$0.15770	$0.16155	$0.12761	$0.13640	$0.17084	$0.21849	$0.10687	$0.18122	$0.15821	$0.11963	$0.15613	$0.16596
Amount paid to growers	0.54526	0.04484	0.62847	0.50054	0.55416	0.56625	0.73252	0.48733	0.45495	0.55160	0.49024	0.54924	0.56062
Total cost of potatoes to shipper	$0.80513	$0.80254	$0.79002	$0.62815	$0.69056	$0.73709	$0.95101	$0.59420	$0.63617	$0.70981	$0.61887	$0.70537	$0.72658
Gross sales	$1.01884	$0.90222	$1.00735	$0.85500	$0.96072	$0.96468	$1.15391	$0.74860	$0.81485	$0.80757	$0.78634	$0.88476	$0.93820
Claims and allowances	$0.00268		$0.01920	$0.00808	$0.02022	$0.01272		$0.00011	$0.02140	$0.00678	$0.00190	$0.00541	$0.01030
Freight	0.18667	$0.16855	0.18085	0.19258	0.19935	0.18788	$0.17122	0.11737	0.18858	0.20171	0.16896	0.17493	0.18359
Net sales	$0.83549	$0.73367	$0.80730	$0.65434	$0.74115	$0.76408	$0.98269	$0.63112	$0.60478	$0.68908	$0.61548	$0.70442	$0.74431
Net profit	$0.03036		$0.01728	$0.02619	$0.05059	$0.02699	$0.03168	$0.03692					$0.01773
Net loss		$0.06887							$0.03130	$0.02073	$0.00339	$0.00095	

TABLE 52. GROUP OPERATING COSTS AND RETURNS PER HUNDREDWEIGHT, 10 SINGLE-STATION DEALERS, SEASON 1922–23

	Northern New York					Weighted average for northern New York dealers	Western New York					Weighted average for western New York dealers	Weighted average for northern and western New York dealers
Dealer no.	126	127	128	129	130		131	134	135	136	137		
Number of hundredweights	33,566.53	9,525.6	31,393.65	21,660.52	47,477.40		14,684.90	5,145.38	11,329.50	13,272.19	26,720.62		
Labor and management	$0.08712	$0.14350	$0.12845	$0.07626	$0.05410	$0.08734	$0.09881	$0.04354	$0.06250	$0.09261	$0.05218	$0.07036	$0.08172
Warehouse costs	0.01290	0.00314	0.01067	0.02125	0.01270	0.01492	0.01297	0.03554	0.03640	0.00493	0.01496	0.01758	0.01580
Equipment costs	0.00041	0.00152	0.00250	0.00072	0.00270	0.00174	0.00128	0.00688	0.00911	0.00408	0.00187	0.00367	0.00238
General office costs	0.04241	0.04367	0.02491	0.04930	0.02907	0.03531	0.03381	0.01725	0.04174	0.02497	0.02675	0.02958	0.03341
Telephone and telegraph	0.00208	0.00998	0.00810	0.00230	0.00484	0.00487	0.00540	0.00485	0.01061	0.00313	0.00636	0.00613	0.00528
Bank exchange	0.00114	.....	0.01299	0.00093	0.00421	0.00464	.....	0.00101	0.00058	0.00154	0.00238	0.00134	0.00355
Brokerage and commissions	0.24717	.....	.....	0.02325	0.05128	0.07822	0.16098	0.00194	0.01988	0.01130	0.02395	0.04763	0.06809
Linings	0.00446	0.01469	0.00532	0.01385	0.00631	0.00735	0.00405	0.01496	0.00776	0.00342	0.01275	0.00858	0.00776
Sacks, tags, and twine	0.01298	0.02561	0.02118	0.00909	0.03159	0.02118	0.03605	0.05076	0.05545	0.08054	0.04844	0.05315	0.03177
Miscellaneous	0.02244	0.02072	0.04614	0.01565	0.03054	0.02917	0.01081	0.00140	0.05801	0.03716	0.00975	0.02218	0.02685
Total operating costs	$0.43311	$0.26283	$0.26026	$0.21269	$0.22734	$0.28474	$0.36416	$0.17813	$0.30204	$0.26368	$0.19939	$0.26020	$0.27661
Amount paid to growers	0.90877	1.07473	1.04746	0.83424	0.92361	0.94376	1.22087	0.81226	0.75827	0.91933	0.83206	0.91540	0.93436
Total cost of potatoes to shipper	$1.34188	$1.33756	$1.31672	$1.04693	$1.15095	$1.22850	$1.58503	$0.99039	$1.06031	$1.18301	$1.03145	$1.17560	$1.21097
Gross sales	$1.69807	$1.50371	$1.67803	$1.42502	$1.60121	$1.60780	$1.92321	$1.24772	$1.35813	$1.49593	$1.31056	$1.47461	$1.56367
Claims and allowances	$0.00446	.....	$0.03200	$0.01347	$0.03370	$0.02121	.....	$0.00010	$0.03582	$0.01130	$0.00318	$0.00902	$0.01717
Freight	0.30112	$0.28092	0.30142	0.32098	0.33225	0.31313	$0.28537	0.10564	0.31431	0.33618	0.28166	0.29155	0.30598
Net sales	$1.39249	$1.22279	$1.34551	$1.09057	$1.23526	$1.27346	$1.63784	$1.05189	$1.00800	$1.14845	$1.02578	$1.17404	$1.24052
Net profit	$0.05061	.....	$0.02879	$0.04364	$0.08431	$0.04496	$0.05281	$0.06156	.....	.....	.....	.....	$0.02955
Net loss	.....	$0.11477	.....	.....	.....	.....	.....	.....	$0.05231	$0.03456	$0.00567	$0.00156	.....

TABLE 53. GROUP OPERATING COSTS AS PERCENTAGES OF TOTAL OPERATING COSTS, 10 SINGLE-STATION DEALERS, SEASON 1922–23

	Northern New York					Average for northern New York dealers (per cent)	Western New York					Average for western New York dealers (per cent)	Average for northern and western New York dealers (per cent)
Dealer no.	126	127	128	129	130		131	134	135	136	137		
Groups	Per cent						Per cent						
Labor and management	20.12	54.60	47.71	35.85	23.80	30.68	27.14	24.44	20.70	35 12	26.17	27.04	29.55
Warehouse costs	2.98	1.20	7.31	10.00	5.58	5.24	3.56	19.95	12.05	1 87	7.51	6.76	5.72
Equipment costs	0.10	0.58	0.93	0.34	1.19	0.62	0.35	3.87	3.02	1.54	0.94	1.41	0.86
General office costs	9.79	16.62	9.25	23.22	12.79	12.40	9.29	9.69	13.82	9.47	13.42	11.37	12.08
Telephone and telegraph	0.48	3.80	3.01	1.09	2.13	1.71	1.48	2.73	3.51	1.19	3.19	2.36	1.91
Bank exchange	0.27	.....	4.82	0.44	1.85	1.63	.....	0.57	0.20	0.59	1.19	0.52	1.28
Brokerage and commissions	57.06	.....	.....	10.93	22.56	27.47	44.21	1.09	6.58	4.29	12.01	18.31	24.62
Linings	1.03	5.59	1.98	6.51	2.78	2.58	1.11	8.40	2 57	1.30	6.40	3 30	2.81
Sacks, tags, and twine	3.00	9.75	7.87	4.28	13.90	7.44	9.90	28.50	18.36	30.55	24.30	20.43	11.48
Miscellaneous	5.17	7.86	17.12	7.34	13.42	10.23	2.96	0.76	19.19	14.08	4.87	8.50	9.69

TABLE 54. GROUP OPERATING COSTS AS PERCENTAGES OF NET SALES, 10 SINGLE-STATION DEALERS, SEASON 1922–23

	Northern New York					Average for northern New York dealers (per cent)	Western New York					Average for western New York dealers (per cent)	Average for northern and western New York dealers (per cent)
Dealer no.	126	127	128	129	130		131	134	135	136	137		
Groups	Per cent						Per cent						
Labor and management	6.26	11.74	9.55	7.00	4.38	6.86	6.03	4.14	6.20	8.06	5.09	6.00	6.59
Warehouse costs	0.93	0.26	1.40	1.95	1.03	1.17	0.79	3.38	3 61	0 43	1 46	1 50	1 27
Equipment costs	0.03	0.12	0.19	0.07	0.22	0.14	0.08	0.65	0.91	0.36	0.18	0.31	0.19
General office costs	3.05	3.57	1 85	4.53	2.35	2.77	2.06	1.64	4.14	2 18	2 61	2.52	2.69
Telephone and telegraph	0.15	0.82	0.60	0.21	0.39	0.38	0.33	0.46	1.05	0 27	0 62	0 52	0 43
Bank exchange	0.08	.....	0.96	0.09	0.34	0.37	.....	0.10	0 06	0 14	0 23	0 11	0.29
Brokerage and commissions	17.75	.....	.....	2.13	4.15	6.14	9.83	0.18	1.97	0 98	2 34	4 06	5 49
Linings	0.32	1.20	0.40	1.26	0.51	0.58	0.25	1.42	0.77	0.30	1.24	0.73	0.63
Sacks, tags, and twine	0.93	2.09	1.57	0.83	2.56	1.66	2.20	4.83	5 50	7 01	4 72	4 53	2.56
Miscellaneous	1.60	1.69	3.43	1.43	2.47	2.29	0.66	0.13	5.75	3 23	0 95	1.88	2.16
Total operating costs	31.10	21.49	20.01	19.50	18.40	22.36	22.23	16.93	29.96	22 96	19 44	22.16	22.30
Claims and allowances	0.32	.....	2.38	1.24	2.73	1.66	.....	0.02	3.55	0.98	0.31	0.77	1.38

12 per cent. Brokerage and commissions made up almost as large a share of the cost as did labor, averaging approximately 25 per cent and ranging from 57 per cent to 0. Sacks, tags, and twine averaged about 11.5 per cent of the total, and ranged from as low as 3 per cent to as high as 30 per cent, being much higher in western than in northern New York. These percentages do not vary greatly from those for the 1921-22 season.

As percentages of net sales.— On the average, the single-station dealers paid $22.30 for operating expenses from every $100 of net sales (table 54). This was made up as follows: $6.59 for labor and management; $1.27 for warehouse costs; 19 cents for equipment costs; $2.69 for general administration expenses; 43 cents for telephone and telegraph bills; 29 cents for bank exchange; $5.49 for selling costs; 63 cents for car linings; $2.56 for sacks, tags, and twine; and $2.16 for miscellaneous expenses. For every $100 of net sales they also made allowances averaging $1.38.

Score cards showing relative standing in efficiency.— A score card on costs and allowances similar to those previously used in this study is shown in table 55. On the basis of costs alone, dealer no. 137 was rated the most efficient. The expenditures for linings were very much above the average. In the matter of returns, however (table 56), dealer no. 137 was next to the lowest. This may indicate that more attention to the selling end of this business would be desirable. Dealer no. 127 was third in costs and second in returns. The weak points in this dealer's business were probably the high labor and management costs, general office costs, and costs for linings. Dealer no. 131 ranked first in returns but eighth in costs. Extremely high costs for brokerage and commissions, and above-average costs for labor and management and for general office expenses, were probably the weak spots in his business.

TABLE 55. SCORE CARD OF OPERATING COSTS, AND CLAIMS AND ALLOWANCES, 10 SINGLE-STATION DEALERS, SEASON 1922–23*

Dealer no.	126	127	128	129	130	131	134	135	136	137
Groups	Per cent of average									
Labor and management	112	188	166	98	69	126	57	82	119	67
Warehouse costs	73	18	142	120	71	72	203	207	28	84
Equipment costs	12	44	71	20	76	36	199	262	116	54
General office costs	149	156	88	174	102	118	62	149	87	94
Telephone and telegraph	28	135	107	31	64	71	66	143	42	85
Brokerage and commissions	783	.....	.....	74	162	506	6	64	36	76
Linings	78	261	93	243	110	70	267	138	60	224
Sacks, tags, and twine	21	41	33	14	50	57	82	89	126	77
Miscellaneous	103	97	212	72	140	49	6	270	170	45
Claims and allowances	22	.....	158	67	166	.....	1	180	56	16
Total score	1,381	940	1,070	913	1,010	1,105	949	1,584	840	822

* The lowest score is the most efficient. Average = 1000.

TABLE 56. SCORE CARD OF RETURNS, 10 SINGLE-STATION DEALERS, SEASON 1922–23*

Dealer no.	126	127	128	129	130	131	134	135	136	137
Groups	Per cent of average									
Amount paid to growers	102	122	117	93	103	135	93	86	102	93
Net sales	123	108	117	95	107	141	93	89	99	89
Total score	225	230	234	188	210	276	186	175	201	182

* The highest score in the most efficient. Average = 200.

MANY-STATION DEALERS

Season 1921–22

The records of nine many-station dealers were studied for the 1921–22 season. One of these dealers had his home office in the central part of Steuben County. He bought potatoes on one basis or another, through the medium of employees, at thirty-three shipping points in nine counties in New York. He handled about 27 carloads of potatoes per station (table 57).

This example may serve to illustrate the differences between cooperative associations, single-station dealers, and many-station dealers. The

TABLE 57. COUNTY OF ORIGIN, NUMBER OF SHIPPING STATIONS IN EACH COUNTY, AND NUMBER OF CARS OF POTATOES SHIPPED FROM EACH COUNTY BY A MANY-STATION DEALER, SEASON 1921–22

County of origin	Number of shipping stations in each county	Number of actual carloads of potatoes shipped from each county	Average number of actual carloads per station
Steuben	8	310	39
Allegany	2	143	71
Otsego	10	160	16
Schoharie	1	6	6
Broome	1	45	45
Tioga	4	52	13
Franklin	4	132	33
Schuyler	1	19	19
Livingston	2	7	3
Total	33	874	27

first two types of shipping agencies operate at one shipping point only. Theoretically, at least, these two types should be more efficient than the many-station dealers because they are able, on the average, to obtain a larger volume of potatoes per station (table 14) and because they have all of their business under immediate supervision. During the 1921-22 season, the cooperatives that had warehouses averaged 78 carloads per warehouse, the single-station dealers 98 carloads, and the many-station dealers 39 carloads. Operating from two to twenty-one warehouses, the many-station dealers found it necessary to spend considerable time and money on travel for purposes of supervision. These dealers also bought odd carloads at points where the total volume shipped would probably have been too small to support a cooperative or a single-station dealer.

The nine dealers who furnished data for this study for the year 1921-22 had a total of 203 loading stations, at which they loaded 4453 carloads of 600 bushels each, or an average of 22 carloads per station (table 58). Five of the dealers had headquarters in Steuben County, three in Allegany County, and one in Clinton County. All of them dealt more or less in

TABLE 58. NUMBER OF LOADING STATIONS AND VOLUME PER STATION, 9 MANY-STATION DEALERS, SEASON 1921–22

Dealer no.	Number of loading stations	Number of 600-bushel carloads shipped	Average number of 600-bushel carloads per station
51	15	473	32
52	8	68	8
53	19	504	27
54	49	898	18
55	5	174	35
56	33	887	17
57	24	417	17
58	28	521	19
60	22	511	23
Total	203	4,453	22

other products besides potatoes (figures 36 to 38). The diversity of interest which engaged the attention of these dealers is set forth in table 59. In this table it is shown that these dealers did not confine their business to the selling of one commodity alone, but made an effort to deal in all of the products raised in their region. Several of the dealers stated that only by handling all possible products could a reasonably profitable business be maintained. All of the dealers had been engaged in the produce business

TABLE 59. AGRICULTURAL PRODUCTS SHIPPED, AND OTHER ENTERPRISES ENGAGED IN, 9 MANY-STATION DEALERS, SEASON 1921–22

Dealer	Agricultural products shipped	Other enterprises engaged in by dealer	Per cent of total business that potatoes constituted
A	Potatoes, rye, buckwheat, wheat	Lime and fertilizer during summer	87.0
B	Potatoes, apples	Farm machinery, farming, feed	66.0
C	Potatoes, hay, cabbage, buckwheat, wheat, carrots, beans, turnips, straw	Feed, farm machinery, farming	68.0
D	Potatoes, hay, wheat, rye, beans, straw, grapes, pears, cabbage		62.0
E	Potatoes	Tile manufacture	50.0
F	Potatoes, hay, grapes, wheat, cabbage, buckwheat		92.4
G	Potatoes, hay, cabbage	Produce business in the South during summer	99.2
H	Potatoes, grapes, hay, cabbage, buckwheat		98.5
I	Potatoes, beans, hay, wool, straw, wheat, rye, buckwheat	Feed, fertilizer, seed	25.0

Figure 36. Office building and feed store of a potato dealer in Allegany County, western New York

for a considerable number of years, either as operators or as employees. Their practices are probably the result of hard-won experience.

Volume of potatoes shipped

During the 1921–22 season, these nine many-station dealers received and shipped 160,317,325 pounds of potatoes, or 2,671,957 bushels, equivalent to 4453 carloads of 600 bushels each. These potatoes actually moved to market in 4359 shipments. Of the total volume shipped, 143,756,631 pounds, or 89.7 per cent, were shipped in sacks, and 16,560,694 pounds, or 10.3 per cent, in bulk. Three dealers shipped from 15 to 23 per cent of the volume handled, in bulk; none of the others shipped more than 8 per cent in bulk, and two dealers shipped their entire volume in sacks.

Figure 37. Office building and feed store of a dealer in Franklin County, northern New York

FIGURE 38. HEADQUARTERS OF A MANY-STATION DEALER IN STEUBEN COUNTY, WESTERN NEW YORK

These dealers shipped two grades of potatoes during the 1921–22 season. Of the total volume, 5,663,050 pounds, or about 157 carloads of 600 bushels each, were sold as United States no. 2 grade. The remainder, comprising 96.47 per cent of the total, were shipped as United States no. 1 grade.

The potatoes shipped by these dealers reached a maximum of 18 States, and, on the average, went to 11 States. The shipments by one dealer went to 148 destinations in 17 States and the District of Columbia. The average number of destinations reached by these dealers was 75. An average of 11 States was reached per dealer, and shipments averaged approximately 35 carloads per State.

Several of the dealers located in northern Steuben, Wyoming, and Allegany Counties reported some competition from truck operators. Approximately 2218 bushels of potatoes, or the equivalent of slightly less than four standard carloads, were sold to truck operators. These truckmen usually came from Rochester or that vicinity, with loads of apples or peaches for disposal in the villages and towns of the southern tier of counties. They frequently took return loads of potatoes for sale in Rochester or the neighboring towns. Trucking potatoes is apparently on the increase in the Steuben area as well as in northern New York, and must be considered by potato shippers.

These nine many-station dealers handled 76 per cent of the volume of potatoes shipped by all the agencies studied, and approximately 31.5 per cent of all up-state potatoes shipped in carloads during the 1921–22 season.

Methods of operation

All of the many-station dealers studied during this season were located in small towns or villages in the potato-producing areas. They obtained the volume of business either by hiring loaders (men who bought and

loaded potatoes) at the various stations, or by purchasing from other dealers potatoes loaded on track. Approximately 98,271 bushels, the equivalent of 164 standard carloads, were bought outright, loaded on track. This was about 4 per cent of the total volume handled. Such transactions were common where so few carloads were shipped annually that the loader did not keep well informed on market conditions. He preferred to sell to a many-station dealer and get a certain profit, rather than trust to luck in a larger market with which he was unfamiliar and had no established trade connections. The many-station dealer, on the other hand, hoped, through superior knowledge of the market, to sell the carload to advantage, and at the same time cut down his overhead expenses per unit by the increase in volume.

Methods of hiring loaders varied with each dealer, but, with minor variations in details, loaders were usually hired in one of three ways: (1) on a straight salary regardless of volume; (2) on an agreed commission per bushel or per hundredweight loaded; or (3) on a joint-account basis.

Salary basis.— Approximately 578,487 bushels of potatoes, or 22 per cent of the total volume handled, were loaded on the salary basis. Practically all of the potatoes received at the home stations of the many-station dealers were graded and loaded by labor hired on salary for that purpose. Several of the many-station dealers hired a few loaders at outside points on the salary basis. Loaders who were hired on this basis were usually men who had had considerable experience in the potato business and in whom the dealer had confidence. At stations where potatoes were loaded on the salary basis, the dealer paid all operating expenses. It was difficult to separate all of the central-office overhead expenses from the salary paid for loading potatoes, but, as nearly as can be ascertained the cost of handling 578,487 bushels of potatoes on the salary basis was approximately 6.1 cents a bushel.

Commission basis.— Of the total volume, about 1403 standard carloads, approximately 31 per cent, were loaded on the commission basis. Loaders engaged on this basis were commonly paid at an agreed rate per bushel or per hundredweight loaded. There was some variation in the rates paid, although the compensation for this kind of work seems to have been fairly well standardized. The average commission for loading 841,827 bushels was 6.52 cents a bushel, with a range from 5.32 to 7.71 cents. The agreements between dealer and loader varied greatly. A few loaders furnished a shed or a warehouse without charge; others were paid a certain rent for the warehouse; and many had no warehouse. About all that can be said of these loading agreements is that they varied according to the bargaining abilities of loader and dealer.

It should not be assumed that the commission paid to the loader represented clear gain. The dealer usually advanced the money with which the loader paid the grower for his potatoes, and the dealer also paid for sacks, car linings, fuel for heating the cars, and all selling expenses. There were certain expenses, however, which the commission man generally had to pay out of his commission fee per bushel. The loader frequently had to hire some labor to help him handle the potatoes. If he used a warehouse, he had to pay for taxes, insurance, and repairs. He had also to incur some expense for fuel, light and power, office supplies, and telegraph and telephone. Commission loaders made considerable use of

automobiles in visiting growers; they also hired some potatoes hauled to the shipping point; and some rented sheds or warehouses. A questionnaire was sent to all of the commission loaders, asking for statements as to expenses incurred by them. Replies covering 237 carloads showed an average cost per carload as follows:

Hired labor	$14.33
Taxes	0.105
Insurance	0.10
Repairs	0.31
Use of automobile	1.94
Cartage of potatoes	0.36
Fuel, light, and power	0.30
Office supplies	0.10
Telephone and telegraph	0.38
Miscellaneous	0.16
Total expenses per car	$18.085
Total expenses per bushel	$0.0301

If the commission loader received an average of 6.52 cents a bushel, and his expenses were on the average 3.01 cents a bushel, he actually netted for his own labor 3.51 cents a bushel.

Since 31 per cent of the volume shipped by these dealers was handled on a commission basis, it would seem to indicate that this was a popular method for handling potatoes. Dealers point out, however, that because the commission loaders have no pecuniary interest in the potatoes themselves, and because the larger the volume they load, the greater are their returns, they are likely to overbuy.

Joint-account basis. — Approximately 1,153,370 bushels, or about 43 per cent of the total volume, were loaded on the joint-account basis. For those who are familiar with the process of share-renting a farm, it will suffice to say that joint-account loading is very similar. There are many variations in the details of share-renting contracts on different farms. Agreements between dealers and joint-account loaders are likewise variable. Essentially, however, the joint-account loader agreed to be responsible for half of the costs and losses, and to receive half of the profits, on the cars so loaded. Usually the dealer supplied money for buying potatoes, sacks, linings, and fuel, and paid all selling costs. The joint-account loader furnished his own labor and perhaps a warehouse. Account was kept of the expenses incurred at the shipping point, and the costs were divided between the loader and the dealer. If any profit over the gross cost of the carload was made, it was usually divided equally between the loader and the dealer. Losses were likewise shared. The pay of the joint-account loaders was contingent upon profits.

Joint-account loaders were usually employed on this basis for either or both of two reasons. From the dealer's point of view, loading on the joint-account basis was thought to make the loader more careful and efficient in buying, since he was to share in losses as well as in profits. On the other hand, joint-account loaders were usually not satisfied with the rates paid for loading on commission, and preferred to forego a certain but perhaps lower compensation in the hope of getting a higher but more uncertain return. During the 1921-22 season, the actual compensation

received by joint-account men averaged 3.16 cents and ranged from 0.54 to 5.05 cents a bushel. If these men had loaded on the commission basis, they would probably have received an average net wage of about 3.51 cents a bushel.

The joint-account basis of loading potatoes has not been entirely satisfactory from either the dealer's or the loader's viewpoint. The dealers stated that while the loader was always willing to share profits, he frequently failed to share losses. The loader felt that the cars loaded by him were not given as much consideration in the matter of sales as were cars loaded on salary or on commission. For example, a dealer may have a demand for three carloads of potatoes at the following prices per carload: $600, $610, $615. He may have three cars on the track, one of them loaded on the salary basis, one on the commission basis, and one on the joint-account basis. The dealer stands all of the expense for the salary-loaded car, and likewise for the commission-loaded car; for the joint-account car, he stands only half of the loading expense. Since the dealer had heavier expenses on the salary- and commission-loaded cars, it seems logical to believe that he would use those cars to fill the higher-priced orders and sell the joint-account car for the lowest price. Joint-account loaders contend that this is likely to occur. At least one of the dealers gave the joint-account loader a choice in the matter.

It may be of interest to note that 78 per cent of the volume shipped by these dealers in 1921 22 was loaded on such a basis that the loader received pay only when he actually worked. This was a tacit recognition of the fact that potato shipping is very irregular. By using the commission and joint-account bases for loading, these dealers avoided the necessity of paying for a great deal of idle labor The same principle was used by most of the cooperatives in paying for loading on the bushel or the hundredweight basis.

Social as compared with actual costs

Society, including producer and consumer alike, is interested not only in the partial costs borne by these many-station dealers, but in the total costs of handling potatoes by these agencies. The costs shown by the books of the many-station dealers do not include expenses incurred by loaders on the commission basis, or the proportional expenses borne by the joint-account loaders. Some of the so called "profit" of the joint-account loader may properly be included in operating costs; some of it must be excluded in accordance with good economic theory.[15] The total costs to society of handling potatoes, for these nine many-station dealers, are given in tables 60 to 67.[16]

Primary and group operating costs

The items of expense incurred in the handling and shipping of potatoes by these many-station dealers during the 1921 22 season are given in table 60.

Labor and management.— The cost of labor and management per carload varied from $21.32 to $42.71, with an average of $29.05 (table 61). This was slightly above the average of all the agencies studied in 1921 22.

[15] Davenport, H. J. The economics of enterprise, p. 1–544 (Reference on p. 65 69.) 1918.
[16] The method of calculation is described in the appendix, page 164.

TABLE 60. PRIMARY OPERATING COSTS PER 600-BUSHEL CARLOAD, 9 MANY-STATION DEALERS, SEASON 1921–22

Dealer no.	51	52	53	54	55	56	57	58	60	Weighted averages‡		
Number of 600-bushel cars	473	68	504	898	174	887	417	521	511	Per car	Per bushel	Per hundredweight
Labor	$19.46105	$14.40735	$27.83656	$23.68782	$21.37367	$32.52554	$42.71159	$24.18595	$20.18273	$26.67420	$0.07409	$0.04445
Sacks, tags, and twine	20.04795	5.43029	25.64446	20.20590	22.02741	26.89243	19.35753	23.08140	21.02796	22.33343	0.06203	0.03722
Rent for warehouse	0.85832	0.14705	1.49109	1.67017	0.20689	0.58856	1.63908	2.27359	1.14481	1.27518	0.00354	0.00212
Taxes on warehouse	0.38780	0.95720	0.85105	0.33207	0.28735	1.90135	0.10774	0.59681	0.48855	0.74504	0.00206	0.00124
Insurance:												
Stock					0.15172	0.32417	0.43155		0.60459	0.18029	0.00050	0.00030
Warehouse	1.06382	0.71720	0.73009	0.91693	0.14022	0.82012	0.26546	1.04774	0.17273	0.72760	0.00202	0.00121
Employer's liability		0.26499				0.18229			0.08636	0.05026	0.00013	0.00008
Fuel	0.53469	1.51588	0.45220	0.24018	0.19908	0.32692	0.59980	0.66228	1.24863	0.52940	0.00147	0.00088
Light and power	0.14608	0.13073	0.34480	0.17291	0.07356	0.65386	0.01712	0.10635	0.42146	0.28694	0.00079	0.00047
Linings	2.51329	4.41176	0.63974	1.99130	0.84994	1.95578	3.19482	1.82025	2.49495	2.02955	0.00563	0.00338
Repairs	0.31577	1.76585	2.61418	0.93253	0.67241	0.81881	0.52760	0.38708	0.88911	0.93054	0.00258	0.00155
Supplies	1.14164	0.73529					0.69410	0.33570	1.03180	0.35517	0.00098	0.00059
Miscellaneous operating expenses	2.89537	0.02588	4.70251	4.91047	0.04701	2.57322	0.41695	3.62305	0.60833	2.87759	0.00799	0.00479
Depreciation:												
Warehouse	0.97251	1.47058	2.99355	3.10690	0.57471	1.36004	0.23117	2.91781	0.56005	1.81178	0.00503	0.00301
Equipment	0.50739	0.14705	0.51486	0.43151	0.71839	1.35000	0.30522	0.73724	0.72113	0.69600	0.00193	0.00115
Officers' salaries			5.39682	3.72828		5.41691		7.71689	2.59050	3.64182	0.01011	0.00606
Manager's salary	3.72938	22.05882			7.18390		3.33045			1.32557	0.00368	0.00220
Office salaries	2.57949	5.95588	2.50365	3.83565	5.17241	2.08342	2.37889	2.37912	3.56469	2.94912	0.00819	0.00491
Travel	0.21087	1.78441	1.54295	1.65503		4.82736	1.78070	3.02724	0.61804	2.11243	0.00586	0.00352
Office supplies	0.52429	0.87397	0.72333	0.49218	0.22701	1.11899	1.06000	0.70998	0.95025	0.77330	0.00214	0.00128
Telephone and telegraph	3.31668	3.00264	3.18162	4.29617	2.06465	3.93725	4.97383	3.71476	1.16317	3.52344	0.00978	0.00587
Inspection	0.03361		0.27579	0.00445	0.02298	0.07147	0.01918	0.00453	0.04696	0.05853	0.00016	0.00009
Office rent					0.28735		0.57093			0.06469	0.00017	0.00010
Brokerage and commissions	3.62494		7.64974	7.70317	5.93229	9.63777	4.17393	8.00321	9.48853	7.37194	0.02047	0.01228
Advertising and publicity						0.30369		0.30912	0.35698	0.14957	0.00041	0.00024
Market service	0.18393	0.02941	0.27793		0.01149	0.72325	0.17841	0.30507	0.18457	0.26954	0.00074	0.00044
Interest on borrowed money	0.02995	4.41176	2.50898	0.59700	1.03448	1.51267	1.61299	1.03288	1.08761	1.21335	0.00337	0.00202
Interest on investment	1.77357	1.89044	2.07396	2.06510	1.23706	1.84974	0.68506	2.05472	1.30953	1.74005	0.00483	0.00289
Miscellaneous office expenses												
Depreciation on furniture and fixtures	0.10570	0.12249	0.19533	0.06904		0.11250	0.00474	0.02111	0.11545	0.08770	0.00024	0.00014
Bad debts									1.38371	0.15878	0.00044	0.00026
Demurrage		0.66132	0.46220			0.02049	0.73213	0.10841	0.24804	0.17620	0.00048	0.00029
Bank exchange	1.49695		0.44484	1.59671	0.02695	1.67791	0.07388	1.62678	1.06569	1.18617	0.00329	0.00197
Freight, express, and drayage*	0.58266	0.05823	0.55271	3.26605	3.13120	0.73447	2.20213	0.63897	1.14387	1.47013	0.00408	0.00245
Total operating costs	$69.04670	$72.97647	$96.60494	$87.90752	$73.65413	$106.36098	$94.27718	$92.66866†	$77.00078	$89.77534	$0.24921	$0.14946

* See first footnote to table 22, page 56.
† Dealer no. 58 let part of a warehouse for $419.08. This amount is deducted from the total cost ($93.47304 – $0.80438 = $92.66866).
‡ Weighted averages per car, per bushel, and per hundredweight are adjusted according to those made for dealer no. 58.

TABLE 61. GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 9 MANY-STATION DEALERS, 1921–22

	Western New York								Average for western New York dealers	Northern New York	Average for western and northern New York dealers
Dealer no.	51	53	54	55	56	57	58	60		52	
Number of carloads	473	504	898	174	887	417	521	511		58	
Labor and management	$21.32	$30.54	$25.55	$24.97	$35.42	$42.71	$28.05	$21.57	$29.10	$25.70	$29.05
Warehouse costs	4.90	9.53	8.52	2.90	6.73	2.85	8.08	4.05	6.55	6.78	6.55
Equipment costs	0.78	1.51	0.80	0.94	1.72	0.74	0.94	1.07	1.11	0.18	1.10
General office costs	5.58	9.22	7.03	10.32	8.97	9.31	9.04	8.25	8.25	22.99	8.47
Telephone and telegraph	3.32	3.18	4.30	2.06	3.94	4.97	3.71	1.16	3.53	3.90	3.52
Bank exchange	1.50	0.44	1.60	0.03	1.68	0.08	1.63	1.07	1.20	.....	1.19
Brokerage and commissions	3.62	7.65	7.70	5.93	9.63	4.18	8.00	9.49	7.49	.....	7.37
Linings	2.51	0.64	1.99	0.85	1.96	3.19	1.82	2.49	1.90	4.41	2.03
Sacks, tags, and twine	20.05	25.64	20.21	22.03	26.89	19.36	23.08	21.03	22.60	5.43	22.33
Miscellaneous	5.47	8.25	10.21	3.62	9.42	6.89	8.32	6.82	8.12	4.49	8.07
Total operating costs	$ 69.05	$ 96.60	$ 87.91	$ 73.65	$106.36	$ 94.28	$ 92.67	$ 77.00	$ 89.94	$ 72.98	$ 89.68
Amount paid to growers	591.22	573.62	566.88	562.76	564.42	556.69	569.14	566.70	568.90	573.82	568.97
Total cost of potatoes to shipper	$660.27	$670.22	$654.79	$636.41	$670.78	$650.97	$661.81	$643.70	$658.84	$646.80	$658.65
Gross sales	$758.06	$685.23	$764.66	$758.93	$787.42	$746.22	$797.90	$793.71	$764.77	$718.11	$764.07
Claims and allowances	$ 9.52	$ 8.09	$ 14.10	$ 1.88	$ 9.27	$ 9.33	$ 14.04	$ 17.62	$ 11.40	$ 4.22	$ 11.30
Freight	91.83	24.03	110.96	106.13	122.13	108.97	122.45	146.67	106.31	113.17	106.42
Net sales	$656.71	$653.11	$639.60	$650.92	$656.02	$627.92	$661.41	$629.42	$647.06	$600.72	$646.35
Net profit	.....	.....	.....	$14.51	.....	.....	.....	.....	.....	.....	.....
Net loss	$3.56	$17.12	$15.19	.....	$14.76	$23.05	$0.40	$14.28	$11.78	$46.08	$12.30

The dealer with the lowest cost for this item handled 32 carloads per loading station, as compared with an average of 22 carloads for the nine dealers. This dealer also hired the largest part of his labor on the joint-account basis. The dealer with the highest cost for labor and management loaded an average of 17 carloads per station and hired practically all of his labor on the commission basis.

Warehouse costs.— These nine dealers operated a total of 74 warehouses, with an average value, for potato-handling purposes, of $1445.33 (table 14, page 34). The average investment in warehouses was $37.01 per carload handled, and ranged from $13.77 to $64.20. On the whole, the many-station dealers had the least expensive warehouses of the three types of shipping agencies studied; but because of the relatively smaller volume handled per warehouse, the investment per carload handled was above that of the single-station dealers though considerably below that of the cooperatives (table 14). The warehouse cost varied from $2.85 to $9.53 per carload handled, with an average of $6.55, or an annual cost of about 1 cent a bushel. The tendency seemed to be toward reduction in number of warehouses, rather than toward expansion.

Equipment cost.— The average cost per carload for use of equipment was $1.10, ranging from 18 cents to $1.72. The average investment in equipment per warehouse was $223.33, ranging from $35 to $395.63 (table 16, page 41). Although the many-station dealers had the lowest investment in equipment of the three types of agencies, their average equipment cost per carload was the highest because of the smaller number of carloads per warehouse. Several of these dealers used electrically driven graders, but hand graders were in the majority. None of the dealers had any dumping equipment.

Brokerage and commissions.— All of these dealers sold more or less of their potatoes directly to wholesale receivers without the aid of brokers. On the other hand, every one of them made use of brokers both in the potato-producing area and in the terminal markets. The average brokerage and commission fees amounted to $7.37 per carload, with a range from $3.62 to $9.63. The dealer whose brokerage and commission fees amounted to only $3.62 had been in the potato shipping business for about thirty years and knew the trade intimately. Several of the dealers had serious objections to the practice that has grown up during the past few years among city receivers, of sending all orders through one brokerage firm, whether or not the broker was instrumental in bringing seller and buyer together. The city receiver evidently hoped to get better brokerage service by such an arrangement. The many-station dealer felt that he was being deprived of $10 a carload which legitimately belonged to him for having effected the sale directly to the receiver.

Linings.— Some of these dealers spent as much as $4.41 per carload for car linings; others spent as little as 64 cents. The average cost for car linings was $2.03 per carload.

Sacks, tags, and twine.— With the exception of a northern New York dealer, no. 52, the many-station dealers all used bright, new, 150-pound sacks. The nine dealers used 947,249 sacks in shipping their potatoes during the 1921–22 season. The average cost per carload was $22.33, ranging from $5.43 to $26.89. The dealer with the highest cost

for sacks used a very attractively trade-marked and colored sack. His net sales were the second highest of all those of the nine dealers.

Total operating costs.— The total operating costs per carload varied from $69.05 to $106.36, with an average of $89.68. The difference between the highest and the lowest cost was equal to about 6 cents a bushel. The variation between costs in this group of many-station dealers was not nearly so wide as that for the cooperatives or for the single-station dealers in the same year.

Amount paid to growers. — The growers received, on the average, $568.97 per carload, or approximately 95 cents per bushel, for the potatoes marketed through these dealers. The average price paid to the grower by the individual dealers varied from $556.69 a carload, or about 93 cents a bushel, to $591.22 a carload, or about 99 cents a bushel. This was slightly above the average for the entire twenty four agencies studied during the 1921–22 season.

Claims and allowances.— These nine dealers allowed claims ranging from $1.88 to $17.62 per carload, with an average of $11.30. It seems likely that a dealer who had loaders working for him at thirty different points would have more difficulty in getting the potatoes well graded and loaded than if he could directly supervise every carload. The difficulty of supervision probably accounts for the slightly higher-than-average claims allowed by these dealers.

Profits and losses.— A shipper with many years of experience in the potato-marketing business assured the writer that no profits could be made when there was a steady market for long periods. During the 1921–22 season, prices started at a high point in September and declined slowly but steadily throughout the season, with only a few minor recoveries. Buyers who bought one day frequently found their potatoes worth less on the following day, and many carloads were sold at cost in order to avoid greater loss. During the season only one of the nine dealers made a profit, this being $14.51 per carload. This dealer had next to the smallest volume, and paid the growers the second lowest price per bushel, of all the dealers. The remaining eight dealers had losses ranging from 40 cents to $46.08 per carload handled, with an average loss of $12.30. The experience of these many-station dealers tallied closely with that of the single-station dealers. Of the seventeen many- and single-station dealers, only three managed to make a profit, and the remainder experienced losses ranging from 40 cents to $46.08 per 600-bushel carload.

Comparisons of group operating costs and returns on different bases

Bushel and hundredweight bases. The operating costs and returns on the bushel and hundredweight bases for these dealers are given in tables 62 and 63.

As percentages of total operating costs.— On the average, approximately 32.4 per cent of the total operating costs of the many-station dealers consisted of labor and management. Other large items were sacks, tags, and twine, 24.9 per cent; general office costs, 9.45 per cent; and brokerage and commissions, 8.22 per cent. The variations in the percentages of operating costs of individual dealers are given in table 64.

As percentages of net sales. — The many-station dealers paid an average of $13.87 for operating expenses, out of every $100 of net sales. They also

TABLE 62. GROUP OPERATING COSTS AND RETURNS PER BUSHEL, 9 MANY-STATION DEALERS, SEASON 1921–22

	Western New York								Weighted average for western New York dealers	Northern New York	Weighted average for western and northern New York dealers
Dealer no.	51	53	54	55	56	57	58	60		52	
Number of bushels	283,887	302,210	538,617	104,393	532,420	25,323	312,383	306,680		41,044	
Labor and management	$0.03552	$0.05092	$0.04259	$0.04161	$0.05990	$0.07115	$0.04676	$0.03592	$0.04850	$0.04257	$0.04841
Warehouse costs	0.00815	0.01590	0.01420	0.00483	0.01121	0.00475	0.01347	0.00674	0.01091	0.01123	0.01091
Equipment costs	0.00129	0.00251	0.00133	0.00156	0.00286	0.00122	0.00156	0.00178	0.00185	0.00028	0.00182
General office costs	0.00929	0.01537	0.01172	0.01720	0.01495	0.01550	0.01507	0.01374	0.01374	0.03809	0.01412
Telephone and telegraph	0.00552	0.00530	0.00716	0.00344	0.00655	0.00828	0.00619	0.00193	0.00588	0.00497	0.00587
Bank exchange	0.00249	0.00074	0.00266	0.00004	0.00279	0.00012	0.00271	0.00177	0.00200	.....	0.00197
Brokerage and commissions	0.00603	0.01275	0.01284	0.00988	0.01605	0.00695	0.01334	0.01580	0.01247	.....	0.01228
Linings	0.00418	0.00106	0.00331	0.00141	0.00325	0.00532	0.00303	0.00415	0.00332	0.00730	0.00338
Sacks, tags, and twine	0.03340	0.04276	0.03368	0.03671	0.04480	0.03224	0.03849	0.03503	0.03766	0.00899	0.03722
Miscellaneous	0.00917	0.01379	0.01707	0.00608	0.01573	0.01151	0.01393	0.01144	0.01357	0.00747	0.01348
Total operating costs	$0.11504	$0.16110	$0.14656	$0.12276	$0.17719	$0.15704	$0.15455	$0.12830	$0.14990	$0.12090	$0.14946
Amount paid to growers	0.98506	0.95662	0.94512	0.93798	0.94030	0.92735	0.94919	0.94425	0.94819	0.95068	0.94823
Total cost of potatoes to shipper	$1.10010	$1.11772	$1.09168	$1.06074	$1.11749	$1.08439	$1.10374	$1.07255	$1.09809	$1.07158	$1.09769
Gross sales	$1.26302	$1.14275	$1.27487	$1.26494	$1.31180	$1 24308	$1.33071	$1.32250	$1.27467	$1.18973	$1.27336
Claims and allowances	$0.01586	$0.01349	$0.02350	$0.00312	$0.01543	$0 01553	$0.02341	$0.02935	$0.01900	$0.00699	$0.01882
Freight	0.15299	0.04008	0.18500	0.17688	0.20346	0.18154	0.20421	0.24438	0 17719	0.18749	0.17734
Net sales	$1.09417	$1.08918	$1.06637	$1.08494	$1.09291	$1.04601	$1.10309	$1.04877	$1 07848	$0.99525	$1.07720
Net profit	.....	.....	.....	$0.02420	.....	.....	.....	.....	.....	.....	.....
Net loss	$0.00593	$0.02854	$0.02531	.....	$0.02458	$0 03838	$0.00065	$0.02378	$0.01961	$0.07633	$0.02040

TABLE 63. Group Operating Costs and Returns per Hundredweight, 9 Many-Station Dealers, Season 1921–22

	Western New York								Weighted average for western New York dealers	Northern New York	Weighted average for western and northern New York dealers
Dealer no.	51	53	54	55	56	57	58	60		52	
Number of hundredweights	170,332.05	181,326.05	323,170.19	62,635.5	319,452	150,193.63	187,429.65	184,008.07		24,626.11	
Labor and management	$0.05921	$0.08487	$0.07099	$0.06035	$0.09833	$0.11858	$0.07794	$0.05987	$0.08084	$0.07096	$0.08069
Warehouse costs	0.01359	0.02650	0.02367	0.00805	0.01868	0.00792	0.02246	0.01124	0.01819	0.01871	0.01819
Equipment costs	0.00215	0.00418	0.00221	0.00260	0.00477	0.00204	0.00260	0.00297	0.00308	0.00047	0.00304
General office costs	0.01549	0.02563	0.01954	0.02869	0.02491	0.02584	0.02512	0.02290	0.02291	0.06348	0.02353
Telephone and telegraph	0.00921	0.00884	0.01193	0.00573	0.01093	0.01380	0.01032	0.00323	0.00981	0.00829	0.00978
Bank exchange	0.00415	0.00123	0.00443	0.00007	0.00465	0.00020	0.00452	0.00295	0.00334	.....	0.00329
Brokerage and commissions	0.01006	0.02126	0.02140	0.01647	0.02675	0.01158	0.02224	0.02634	0.02079	.....	0.02047
Linings	0.00697	0.00177	0.00553	0.00236	0.00543	0.00887	0.00505	0.00692	0.00553	0.01218	0.00563
Sacks, tags, and twine	0.05567	0.07127	0.05614	0.06119	0.07466	0.05374	0.06415	0.05839	0.06276	0.01499	0.06203
Miscellaneous	0.01523	0.02296	0.02842	0.01010	0.02620	0.01917	0.02319	0.01902	0.02259	0.01243	0.02245
Total operating costs	$0.19173	$0.26851	$0.24426	$0.20461	$0.29531	$0.26174	$0.25759	$0.21383	$0.24984	$0.20151	$0.24910
Amount paid to growers	1.64175	1.59438	1.57519	1.56332	1.56715	1.54558	1.58203	1.57375	1.58033	1.58449	1.58039
Total cost of potatoes to shipper	$1.83348	$1.86289	$1.81945	$1.76793	$1.86246	$1.80732	$1.83962	$1.78758	$1.83017	$1.78600	$1.82949
Gross sales	$2.10503	$1.90460	$2.12476	$2.10826	$2.18632	$2.07180	$2.21791	$2.20417	$2.12445	$1.98291	$2.12228
Claims and allowances	$0.02644	$0.02249	$0.03918	$0.00521	$0.02573	$0.02589	$0.03902	$0.04892	$0.03167	$0.01166	$0.03136
Freight	0.25499	0.06680	0.30833	0.29481	0.33910	0.30256	0.34036	0.40730	0.29531	0.31249	0.29558
Net sales	$1.82360	$1.81531	$1.77725	$1.80824	$1.82149	$1.74335	$1.83853	$1.74795	$1.79747	$1.65876	$1.79534
Net profit	.....	.....	.....	$0.04031	.....	.....	.....	.....	.....	.....	.....
Net loss	$0.00988	$0.04758	$0.04220	.....	$0.04097	$0.06397	$0.00109	$0.03963	$0.03270	$0.12724	$0.03415

TABLE 64. GROUP OPERATING COSTS AS PERCENTAGES OF TOTAL OPERATING COSTS, 9 MANY-STATION DEALERS, 1921–22

	Western New York								Average for western New York dealers (per cent)	Northern New York	Average for western and northern New York dealers (per cent)
Dealer no.	51	53	54	55	56	57	58	60		52	
Groups	Per cent									Per cent	
Labor and management	30.89	31.60	29.07	33.90	33.30	45.30	30.26	28.00	32.36	35.22	32.40
Warehouse costs	7.09	9.87	9.69	3.94	6.32	3.03	8.72	5.26	7.28	9.29	7.31
Equipment costs	1.12	1.56	0.91	1.27	1.62	0.78	1.01	1.39	1.24	0.24	1.22
General office costs	8.08	9.55	8.00	14.02	8.44	9.87	9.75	10.71	9.17	31.50	9.45
Telephone and telegraph	4.80	3.29	4.88	2.80	3.70	5.28	4.01	1.51	3.93	4.11	3.93
Bank exchange	2.17	0.46	1.82	0.04	1.58	0.08	1.76	1.39	1.34	.....	1.32
Brokerage and commissions	5.25	7.92	8.76	8.05	9.06	4.43	8.64	12.32	8.32		8.22
Linings	3.64	0.66	2.27	1.15	1.84	3.39	1.96	3.24	2.21	6.05	2.26
Sacks, tags, and twine	29.04	26.55	22.99	29.91	25.28	20.53	24.91	27.31	25.12	7.44	24.90
Miscellaneous	7.92	8.54	11.61	4.92	8.86	7.31	8.98	8.87	9.03	6.15	8.99

TABLE 65. GROUP OPERATING COSTS AS PERCENTAGES OF NET SALES, 9 MANY-STATION DEALERS, SEASON 1921–22

	Western New York								Average for western New York dealers (per cent)	Northern New York	Average for western and northern New York dealers (per cent)
Dealer no.	51	53	54	55	56	57	58	60		52	
Groups	Per cent									Per cent	
Labor and management	3.24	4.67	3.99	3.84	5.39	6.80	4.24	3.43	4.50	4.28	4.50
Warehouse costs	0.75	1.46	1.33	0.45	1.03	0.45	1.22	0.64	1.01	1.13	1.01
Equipment costs	0.12	0.23	0.13	0.14	0.26	0.12	0.14	0.17	0.17	0.03	0.17
General office costs	0.85	1.44	1.10	1.59	1.37	1.38	1.37	1.31	1.27	3.83	1.31
Telephone and telegraph	0.51	0.49	0.67	0.32	0.60	0.79	0.56	0.18	0.55	0.50	0.54
Bank exchange	0.23	0.07	0.25	.....	0.25	0.01	0.24	0.17	0.19	.....	0.18
Brokerage and commissions	0.55	1.17	1.20	0.91	1.47	0.67	1.21	1.51	1.16		1.14
Linings	0.38	0.10	0.31	0.13	0.30	0.51	0.28	0.49	0.31	0.73	0.31
Sacks, tags, and twine	3.05	3.93	3.16	3.38	4.10	3.08	3.49	3.34	3.49	0.90	3.46
Miscellaneous	0.83	1.26	1.60	0.56	1.44	1.10	1.26	1.08	1.25	0.75	1.25
Total operating costs	10.51	14.79	13.74	11.32	16.21	15.01	14.01	12.23	13.90	12.15	13.87
Claims and allowances	1.45	1.24	2.20	0.29	1.41	1.49	2.12	2.80	1.76	0.70	1.75

allowed claims averaging $1.75 for every $100 of net sales. The large items of expense were: labor and management, $4.50; warehouse costs, $1.01; general office costs, $1.31; brokerage and commissions, $1.14; and sacks, tags, and twine, $3.46. The variations in these amounts for the individual dealers are given in table 65.

Score cards showing relative standing in efficiency. – The many-station dealers were scored in a manner similar to the cooperatives and single-station dealers. On the basis of costs and allowances (table 66), dealer no. 55 was the most efficient. The items in which his costs were high were general office cost, and sacks, tags, and twine. On the basis of returns (table 67), however, this dealer ranked fifth in efficiency. Dealer no. 51 ranked second in efficiency in costs, and first in efficiency in returns.

TABLE 66. Score Card of Operating Costs, and Claims and Allowances, 9 Many-Station Dealers, Season 1921–22*

Dealer no.	51	52	53	54	55	56	57	58	60
Groups	Per cent of average								
Labor and management	74	90	107	89	87	124	149	98	75
Warehouse costs	79	109	153	137	47	108	46	130	65
Equipment costs	74	17	144	76	90	164	70	90	102
General office costs	67	275	110	84	124	107	112	108	99
Telephone and telegraph	108	98	104	140	67	128	162	121	38
Brokerage and commissions	41	0	86	86	66	108	47	90	106
Linings	124	218	32	99	42	97	158	90	123
Sacks, tags, and twine	102	28	130	102	112	136	98	117	107
Miscellaneous	74	61	111	138	49	127	93	112	92
Claims and allowances	86	38	73	128	17	84	84	127	159
Total score	829	934	1,050	1,079	701	1,183	1,019	1,083	966

* The lowest score is the most efficient. Average = 1000.

TABLE 67. Score Card of Returns, 9 Many-Station Dealers, Season 1921–22*

Dealer no.	51	52	53	54	55	56	57	58	60
Items	Per cent of average								
Amount paid to growers	104	101	101	100	99	100	98	101	100
Net sales	102	93	101	99	101	102	97	103	98
Total score	206	194	202	199	200	202	195	204	198

* The highest score is the most efficient. Average = 200.

His business seemed to be well balanced, although expenditures for telegraph and telephone, linings, and sacks were somewhat above the average. Dealer no. 56 ranked third in efficiency in returns, but ninth in efficiency in costs. Costs for labor and management, equipment, telephone and telegraph, sacks, tags, and twine, and miscellaneous expenses, were all above the average. This dealer was efficient in selling, but there was evidently need for close attention to operating costs.

On the whole, the score cards applied to the many-station dealers did not show the wide ranges in efficiency exhibited by the cooperatives and the single-station dealers.

Season 1922–23

The records of twelve many-station dealers were studied for the 1922–23 season. Six of these dealers had headquarters in Steuben County, three in Allegany County, two in Clinton County, and one in Cayuga County. They operated at a total of 202 stations, at which they loaded 3247 carloads of 600 bushels each, or an average of 16 carloads per station (table 68).

TABLE 68. NUMBER OF LOADING STATIONS AND VOLUME PER STATION, 12 MANY-STATION DEALERS, SEASON 1922–23

Dealer no.	Number of loading stations	Number of 600-bushel carloads shipped	Average number of 600-bushel carloads per station
151	9	301	33
152	8	78	10
154	28	356	13
155	6	111	12
156	35	492	14
157	34	416	12
158	17	266	16
159	37	575	16
160	14	372	27
162	2	85	43
163	10	59	10
164	2	136	68
Total	202	3,247	16

None of these dealers handled as great a volume as did the many-station dealer handling the largest volume during the 1921–22 season. Dealers nos. 151, 152, 154, 155, 156, 157, 158, and 160 were included also in the first season. The volume handled by them in 1921–22, with the exception of dealer no. 151, was reduced approximately 50 per cent during the 1922–23 season, due largely to a smaller crop. The average number of carloads per station decreased from 22 in 1921–22 to 16 in 1922–23.

These dealers were all engaged in some other line or lines of work (table 69) which kept them busy during idle moments in the potato business. Yet each one handled a volume of potatoes which would be considered a

TABLE 69. Agricultural Products Shipped, and Other Enterprises Engaged in, 12 Many-Station Dealers, Season 1922–23

Dealer	Agricultural products shipped	Other enterprises engaged in by dealer	Per cent of total business that potatoes constituted
A	Potatoes, hay, rye, buckwheat, wheat, oats	Lime and fertilizer	87
B	Potatoes, apples, hay	Farm machinery, farming, feed	25
C	Apples, buckwheat, hay, rye, wheat, beans, barley, potatoes		22
D	Potatoes	Tile manufacture	50
E	Apples, buckwheat, potatoes, hay, wheat, cabbage, grapes		69
F	Potatoes, hay, cabbage, buckwheat, apples, oat straw	Lime, farming, produce business in the South during summer	79
G	Hay, potatoes, grapes, apples, cabbage, buckwheat, rye	Fertilizer and lime	62
H	Potatoes, hay, apples, cabbage, buckwheat		92
I	Potatoes, hay, wheat, rye, apples, buckwheat, beans, wool	Feed, fertilizer, seed	18
J	Potatoes, Christmas trees, apples.	Feed, fertilizer	50
L	Potatoes, barley, beans, wheat, buckwheat, apples, hay, cabbage, straw	Lumber, bricks, fertilizer, feed, coal, lime	7
M	Potatoes, grapes	Coal, feed	50

large business if handled by a cooperative or a single-station dealer. Experience seems to have taught these dealers that it is not wise to rely on one line of business alone.

Volume of potatoes shipped

During the 1922–23 season, these twelve many-station dealers received and shipped 116,950,810 pounds of potatoes, or 1,949,179 bushels, equivalent to 3247 carloads of 600 bushels each. These potatoes actually moved to market in 3145 shipments. Approximately 15,597,813 pounds, or 13.3 per cent of the total volume, moved in bulk; the remainder, 101,353,007 pounds, or 86.7 per cent, were shipped in sacks. One of the dealers located in Clinton County shipped all of his potatoes in bulk; the other dealer in that county shipped 58 per cent in bulk. Only one of the dealers in western New York shipped as much as 24 per cent in bulk. The other dealers shipped from 0.94 to 12.68 per cent in bulk.

Potato prices ranged relatively low during the 1922–23 season, and there was little demand for second-grade stock. Of the total volume shipped by these dealers, 716,680 pounds, or approximately 20 carloads of 600 bushels each, were sold as United States no. 2 grade, or seconds. The remainder, which was 99.39 per cent of the total, were shipped as United States no. 1 grade, or firsts.

These dealers shipped their potatoes to an average of 8 States, the number of States ranging from 2 to 14. The average number of destinations reached per dealer was 43, with a range from 2 to 93. Shipments per State averaged 30 carloads and ranged from 11 to 50 carloads.

These twelve many-station dealers handled approximately 70 per cent of the volume of potatoes shipped by all the agencies studied, and about 27 per cent of all up-state potatoes shipped in carloads during the 1922–23 season.

Methods of operation

During the season 1922–23, these twelve dealers bought approximately 4 per cent of their volume outright, loaded in cars; 26 per cent was loaded on the salary basis, either at the home office of the dealer or by a few loaders hired at outside points; 33 per cent was loaded on the commission basis; and 37 per cent was loaded on the joint-account basis. These proportions were substantially the same as for the nine many-station dealers studied during the 1921–22 season. The joint-account method was the one most widely used, and averaged for the two seasons about 40 per cent of the total volume; the commission method of loading averaged about 32 per cent for the two seasons; the salary-basis method averaged approximately 24 per cent; and about 4 per cent of the potatoes were bought outright.

There was considerable variation in the practice of the individual dealers during the 1922–23 season. Two dealers loaded all of their potatoes on the salary basis; two loaded about 20 per cent on the salary basis and 80 per cent on the joint-account basis; one loaded about 30 per cent on the salary basis and 70 per cent on the commission basis; one bought about 40 per cent of his volume outright, and loaded the remainder largely on the salary basis, with one carload on the commission basis; one loaded approximately 50 per cent on the joint-account basis, 40 per cent on the commission basis, and 10 per cent on the salary basis, but did not buy any carloads outright; the remaining five dealers used all four methods of loading, in varying proportions. There was thus no uniform or standard method of handling the potatoes; each dealer followed the system which seemed to him to offer the best advantages, and this, of course, differed with the personalities and the circumstances of the men who were to do the loading.

Salary basis.— The average cost of loading on the salary basis during the 1922–23 season, as nearly as could be ascertained, was 6.08 cents a bushel, and approximately 497,687 bushels were so loaded by these dealers. The cost of loading on this basis varied from 1.17 to 9.82 cents a bushel. The average cost of loading on the salary basis, for the two seasons, was approximately 6 cents a bushel.

Commission basis.— The rate paid for loading on the commission basis during the 1922–23 season varied from 4.67 to 6.11 cents a bushel, and averaged 5.3 cents a bushel for the 650,073 bushels so handled. If expenses incurred by the commission loader averaged 3.01 cents a bushel (as indicated by the results of the questionnaire referred to on page 106), the commission loader netted, on the average, about 2.29 cents a bushel for his own labor and managerial efforts.

The average cost of loading on the commission basis, for the two seasons, was approximately 5.91 cents a bushel.

Joint-account basis.— Neither of the two methods just discussed was as sensitive to prosperity or lack of prosperity in the business as was the joint-account method. In a year when large profits were made, the cost of loading potatoes on this basis would probably be very high, and the reverse would probably be the case in a year of small profits or heavy losses. The two seasons during which this study was made were years in which losses were incurred by most of the dealers. It was therefore to be expected that the actual cost of loading on the joint-account basis would be low for those two seasons. During the 1922–23 season, this cost varied from 1.5 to 6.9 cents a bushel and averaged 2.84 cents. The average cost of loading on the joint-account basis, for the two seasons, was approximately 3 cents a bushel.

From the point of view of the dealer, the joint-account method of loading potatoes was apparently the cheapest method during the seasons 1921–22 and 1922–23. The foregoing data may indicate that in years when the prospects point to small profits or large losses, the most advantageous method of loading is on the joint-account basis. In years when there is a likelihood for profit, the commission method is probably more advantageous to the dealer. In any event, the data thus far gathered indicate that the salary method was the most expensive. This may have been due to the inherent difficulty of keeping the labor profitably employed under conditions of highly irregular receipts of potatoes.

The items of expense incurred in the handling and shipping of potatoes by these dealers during the 1922–23 season are given in table 70.

Primary and group operating costs

Labor and management.— Differences in the method employed in loading potatoes probably account for a good share of the variation of the labor and management costs incurred by these dealers (table 71). The average cost per carload for the twelve dealers was $27.99, varying from $14.61 to $40.87. The dealers who loaded entirely on the salary basis were those who had the highest costs per carload for labor and management. The dealer who purchased about 40 per cent of his volume outright, already loaded on track, naturally had the lowest cost per carload for labor and management. It may be possible to buy potatoes loaded on track, cheaper than on any of the other bases. Many of the loaders who sell their potatoes on the "bought outright, loaded on track" basis, evidently do not place a high value on their labor. Much of this loading is done during spare time from major occupations such as storekeeping, and would be largely idle time if there were no potatoes to be loaded. Any margin over actual physical costs, therefore, is better than nothing at all.

It is a curious fact that costs per carload for labor and management averaged less during the 1922–23 season when, on the average, a smaller volume was handled, than during the 1921–22 season when the volume handled was approximately 50 per cent larger. The heavy losses of the 1921–22 season may have resulted in more careful attention being given to costs, or the difference may have been due to the absolutely smaller volume loaded on the salary basis during the 1922–23 season.

TABLE 70. PRIMARY OPERATING COSTS PER 600-BUSHEL CARLOAD, 12 MANY-STATION DEALERS, SEASON 1922–23

Dealer no.	151	152	154	155	156	157	158	159	160	162	163	164	Weighted averages‡		
Number of 600-bushel cars	301	78	356	111	492	416	266	575	372	85	59	136	Per car	Per bushel	Per hundredweight
Labor	$19.38362	$4.83653	$25.29247	$18.61072	$27.46584	$26.86509	$27.75807	$26.77441	$21.39602	$22.64705	$23.57966	$26.16896	$24.51005	$0.04082	$0.06804
Sacks, tags, and twine	26.82554	7.14179	22.55143	20.04621	23.94580	20.69122	32.03383	25.38468	28.54741	0.27058	17.78847	31.30588	24.12714	0.04219	0.06698
Rent for warehouse	0.45667		0.87210	0.32432	0.87932	0.85413	0.84548	0.52203	0.71448	1.17647		0.85294	0.70179	0.00116	0.00194
Taxes on warehouse	0.62182	0.82102	0.28061	0.45045	1.84666	1.07341	0.94845	0.46010	0.53965	0.64117	1.30898	2.57352	0.91023	0.00151	0.00252
Insurance:															
Stock					0.20914				0.75053	1.98823			0.16972	0.00028	0.00047
Warehouse	0.68704	0.43935	2.46943	0.14855	1.43241	1.06887	0.39515	0.37123	0.21446	0.88235	1.85220	1.28676	0.93739	0.00156	0.00260
Employer's liability	0.05495	0.15397	0.09831		0.29268				0.10723				0.07620	0.00012	0.00021
Fuel	1.42362	1.28564	1.01426	0.38891	0.92865	0.70290	0.46843	0.73895	1.25174	2.29411	0.25694	0.88970	0.93275	0.00155	0.00258
Light and power	0.32548	0.11141	0.53573	0.08648	0.34863	0.24146	0.25499	0.04925	0.35959		0.00745	0.24999	0.25972	0.00043	0.00072
Linings	5.09036	3.07692	1.99800	1.09567	1.23888	2.10569	1.82180	0.91478	1.82088	1.23000	1.02881	2.82352	1.94882	0.00324	0.00541
Repairs	0.09189	1.49074	1.22525	1.09270	0.25847	3.23319	0.58229	0.50459	0.44817		0.11559		0.86013	0.00143	0.00238
Supplies		0.64102	0.01500				0.12003	0.03553	1.30521	0.58823	9.56118		0.42496	0.00070	0.00117
Miscellaneous operating expenses	2.05249	0.17512	1.62609		1.85817	0.73644	2.26443	1.11530	1.02026	0.87447	1.34779		1.29595	0.00215	0.00359
Depreciation:															
Warehouse	1.52823	1.28205	2.50280	0.90090	1.50851		4.13920	0.62879	0.76932	2.35294	1.26745	3.02205	1.45603	0.00242	0.00404
Equipment	0.69767	0.12820	0.30528	1.12612	1.28766	0.46062	0.45958	1.20959	0.99059	0.42352	0.51338	1.62499	0.84767	0.00141	0.00235
							10.02255	7.99999	3.51247			29.41176	5.43171	0.00904	0.01508
Officers' salaries		19.23076	3.22794							35.29411	5.73559		2.20683	0.00367	0.00612
Manager's salary	5.20265			11.26126	4.90853	2.43076					0.91542	2.82352	2.72222	0.00453	0.00755
Office salaries	3.09411	3.65384	1.85634	8.10810	2.82170	2.16776	2.06627	1.91999	4.51661		1.57152	1.47058	1.56946	0.00261	0.00435
Travel	0.00724	1.30692	1.25469	0.67567	3.01841	3.19487	1.01571	1.57257	0.50809		0.46101	0.73529	0.53385	0.00088	0.00148
Office supplies	0.32980	0.74910	0.51342	0.36036	0.62310	0.61567	0.72003	0.36730	0.40411	1.29411	0.46101	0.73529	0.53385	0.00088	0.00148
Telephone and telegraph	3.22066	2.56897	3.13567	1.94351	3.53817	5.99204	3.47387	2.81481	1.10107	2.58823	3.17728	2.58823	3.21740	0.00535	0.00893
Inspection	3.43674		1.81179	0.45045	0.95853		0.98894	0.27008				0.02941	0.80795	0.00134	0.00224
Office rent			0.55617			0.68365							0.14856	0.00024	0.00041
Brokerage and commissions	3.56312	3.55307	0.55654	3.96846	4.47703	6.43326	12.72492	6.36808	7.31349	58.59352	1.35593	5.44117	7.89613	0.01315	0.02192
Advertising and publicity			0.19926		0.63459		0.55481	0.10559	0.25545				0.21142	0.00035	0.00058
Market service	0.24737	0.02564	0.06987	0.01801	0.19284	0.18968	0.37819	0.24319	0.20510	0.05882			0.18344	0.00030	0.00050
Interest on borrowed money	0.06392	3.84615		1.62162	2.76833	0.03293	1.26849	0.61951	3.04209		0.85254		1.15508	0.00192	0.00320
Interest on investment	2.68607	1.55705	1.69179	1.81756	2.53004	1.03480	3.00394	1.61048	1.62846	3.87176	5.10694	5.04624	2.16346	0.00360	0.00600
Miscellaneous office expenses												0.18382	0.00769	0.00001	0.00002
Depreciation on furniture and fixtures	0.14451	0.10679	0.06179		0.28749	0.01668	0.02563	0.04519	0.11672	0.02352	0.25661		0.09719	0.00016	0.00026
Bad debts									0.93002	2.94117		1.10294	0.22974	0.00038	0.00063
Demurrage		3.20512	1.95140		0.31205	0.82374	0.23796	0.45043	1.42741	7.05882		0.04411	0.89319	0.00148	0.00247
Bank exchange	0.93694	0.01743	0.89794		0.74699	1.83427	0.77887	0.22728	0.24443	3.52941	2.09372		0.79627	0.00132	0.00221
Storage															
Freight, express, and drayage*	0.51212	0.00461	1.94876	1.65558	0.86477	0.98269	1.89157	0.75980	2.28588	3.82352			1.22627	0.00204	0.00340
Total operating costs	$82.68463	$61.41821	$89.42113	$76.15161	$92.18264	$84.46582	$110.52093 †	$84.38352	$87.72694	$154.44611	$80.15446	$119.67538	$90.89722	$0.15125	$0.25219

* See first footnote to table 22, page 56.

† Dealer 158 let part of a warehouse for $192.20. This amount is deducted from the total cost ($111.24348 − $0.72255 = $110.52093).

‡ Weighted averages per car, per bushel, and per hundredweight are adjusted according to those made for dealer no. 158.

TABLE 71. GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 12 MANY-STATION DEALERS, SEASON 1922–23

	Western New York										Average for western New York dealers	Northern New York		Average for western and northern New York dealers
Dealer no.	151	154	155	156	157	158	159	160	163	164		152	162	
Number of carloads	301	356	111	492	416	266	575	372	59	136		78	85	
Labor and management	$22.04	$27.00	$24.24	$30.21	$26.87	$32.77	$30.78	$21.50	$23.58	$40.87	$27.99	$14.61	$40.29	$27.99
Warehouse costs	5.33	8.78	4.46	7.82	6.95	8.53	2.97	3.51	7.41	11.40	6.24	5.46	8.51	6.28
Equipment costs	1.13	0.36	1.40	1.52	0.67	0.69	1.93	1.64	0.78	2.12	1.26	0.14	0.80	1.22
General office costs	6.97	5.12	15.74	10.38	6.36	10.77	7.81	12.67	10.19	19.67	9.33	18.66	19.29	9.81
Telephone and telegraph	3.22	3.14	1.94	3.54	5.99	3.47	2.81	1.10	3.18	2.59	3.25	2.58	2.59	3.22
Bank exchange	0.94	0.90	.....	0.74	1.84	0.78	0.23	0.24	2.09	.....	0.74	0.02	3.53	0.80
Brokerage and commissions	3.56	9.55	3.97	4.48	6.43	12.73	6.37	7.31	1.36	5.44	6.61	3.55	58.59	7.90
Linings	5.09	2.00	1.10	1.24	2.11	1.82	0.91	1.82	1.03	2.82	1.94	3.08	1.23	1.95
Sacks, tags, and twine	26.83	22.55	20.05	23.95	20.69	32.03	25.38	28.55	17.79	31.31	25.21	7.14	0.27	24.13
Miscellaneous	7.57	10.02	3.25	8.30	6.56	6.93	5.19	9.39	12.74	3.46	7.32	6.19	19.33	7.60
Total operating cost	$ 82.68	$ 89.42	$ 76.15	$ 92.18	$ 84.47	$110.52	$ 84.38	$ 87.73	$ 80.15	$119.68	$ 89.89	$ 61.42	$ 154.44	$ 90.90
Amount paid to growers	320.55	317.72	305.98	338.86	304.73	296.37	300.90	348.36	333.23	313.74	318.03	386.95	384.92	321.44
Total cost of potatoes to shipper	$403.23	$407.14	$382.13	$431.04	$389.20	$406.89	$385.28	$436.09	$413.38	$433.42	$407.92	$448.37	$539.36	$412.34
Gross sales	$471.35	$514.24	$491.71	$547.47	$505.62	$505.23	$468.60	$552.36	$543.76	$515.66	$509.32	$510.94	$629.24	$512.50
Claims and allowances	$ 9.84	$ 14.03	$ 3.16	$ 3.10	$ 6.61	$ 9.13	$ 3.56	$ 11.37	$10.14	$ 2.84	$ 7.22	$ 3.30	.....	$ 6.94
Freight	86.04	102.38	99.22	106.14	98.93	106.38	68.88	106.10	97.16	100.75	95.18	108.81	$119.15	96.14
Net sales	$375.47	$397.83	$389.33	$438.23	$400.08	$389.72	$396.16	$434.89	$436.46	$412.07	$406.92	$398.83	$510.09	$409.42
Net profit	.....	.....	$7.20	$7.19	$10.88	.....	$10.88	.....	$23.08	.....	.....	.....	.....	.....
Net loss	$27.76	$9.31	.....	.....	.....	$17.17	.....	$1.20	.....	$21.35	$1.00	$49.54	$29.27	$2.92

Warehouse costs.— These twelve dealers operated a total of 66 warehouses, with an average value, for potato-handling purposes, of $1446.62 (table 15, page 36). The average investment in warehouses was $47.62 per carload handled, ranging from $25.64 to $84.69. None of these dealers stored any potatoes permanently for the winter. Their warehouses had, at the outset, possible winter-storage space to accommodate about 483 bushels of potatoes, or 1 carload. The actual warehouse cost per carload varied from $2.97 to $11.40 and averaged $6.28. These variations were due largely to the volume handled per warehouse. The average investment of $1446.62 indicates that these warehouses were not elaborate.

Equipment costs.— As a rule, the dealers had conservative investments in potato-handling equipment. The average investment per warehouse was $295.62 (table 17), and per loading station approximately $145. The average cost per carload for the use of equipment was $1.22, the cost ranging from 14 cents to 2.12.

Brokerage and commissions.— One of these dealers sold all of his potatoes by the joint-account method. His selling cost averaged $58.59 per carload. The costs for the remaining eleven dealers ranged from $1.36 to $12.73 per carload, and averaged approximately $6.53. The dealer whose costs ran as high as $12.73 per carload sold a number of carloads on the consigned, or commission, basis. With the exception of the dealer who sold on the joint-account basis, all of these dealers sold some of their potatoes direct to wholesale receivers without the aid of brokers. Eleven of them likewise made extensive use of the brokerage system.

Linings.— Some of these dealers set a high standard in the matter of lining cars; others evidently took chances and followed this practice less extensively. The average cost per carload for linings was $1.95, the cost ranging from 91 cents to $5.09.

Sacks, tags, and twine.— The two dealers located in northern New York did not use sacks to any appreciable extent, but the western New York dealers expended an average of $25.21 per carload for this item. Several of these dealers used attractively trade-marked sacks, which were somewhat more expensive than plain sacks.

Total operating costs.— The total operating costs per carload varied with the individual dealers from $61.42 to $119.68, and averaged $90.90 for the group. The difference between the highest and the lowest cost per carload was equal to 15.5 cents a bushel. The average cost for the nine many-station dealers during the 1921–22 season was $89.68, or $1.22 less per carload on a much larger volume handled than in 1922-23. It is unusual that with a considerable decrease in actual volume handled, the average operating cost increased as little as $1.22 per carload. On the average, these many-station dealers had the lowest operating cost per carload during the 1922–23 season, of the three types of shipping agencies studied.

Amount paid to growers.— The average amount paid to growers by these many-station dealers was $321.44 per carload, or approximately 53 cents per bushel. This was slightly less than the average amount paid by all the thirty-four agencies studied in 1922–23. The average price paid to growers by the individual dealers varied from $295.37 per carload, or 49 cents a bushel, to $386.95 per carload, or 64 cents a bushel.

Claims and allowances.— The claims allowed by these many-station dealers during the 1922–23 season averaged $6.94 per carload, as compared with $11.30 per carload allowed by the nine dealers in the preceding season. It is difficult to say just what was the cause of this decrease in claims. It was probably the result of several factors. Shipping-point inspection on the part of the state and federal governments undoubtedly contributed somewhat to this result, A better quality of potatoes, with less disease and rot, was probably another contributing element. An all-around tightening up after the disastrous 1921–22 season may have had some effect. Not all of the dealers reduced their average claims. The range in claims and allowances per carload was from $2.84 to $14.03.

Net sales.— The net sales realized from a carload of potatoes depends on at least three factors: the sales ability of the dealer, the amount of freight charges, and the claims for allowances. The freight charges ranged from $68.88 to $119.15 per carload, a variation equal to approximately 8.4 cents per bushel. The net sales realized varied from $375.47 to $510.09 per carload, a variation equal to 22.4 cents per bushel. The variation in claims per carload was equal to approximately 1.8 cents per bushel. Even allowing for an unknown differential for selling at different periods of the year, in addition to the variations due to freight and claims, it is probable that there was considerable variation among these dealers in ability as salesmen.

Profits and losses.— The position of the many-station dealer was, on the whole, better during the 1922–23 season than in 1921–22. Five of the twelve dealers managed to make a profit; during the previous season only one dealer out of nine was so fortunate. Seven of the twelve dealers experienced losses in 1922–23 ranging from $1.20 to $49.54, and the average for all twelve dealers was a loss of $2.92 per carload. The two dealers who paid the grower the most for his potatoes were the ones with the greatest losses per carload. On the basis of costs and sales, they overpaid the grower from 5 to 8 cents a bushel. The profits made by five of these dealers ranged from $7.19 to $23.08 per carload, or from 1.2 to 3.8 cents a bushel.

Comparisons of group operating costs and returns on different bases

Bushel and hundredweight bases.— The costs and returns calculated in terms of bushels or hundredweights are given in tables 72 and 73.

As percentages of total operating costs.— Approximately 31 per cent of the total operating costs of these dealers consisted of labor and management. Sacks, tags, and twine constituted almost as great a proportion, 26.54 per cent. Other items which made up large proportions of the total operating costs were: general office costs, 10.79 per cent; brokerage and commissions, 8.69 per cent; and warehouse costs, 6.9 per cent. There were wide variations in these percentages of cost among the individual dealers (table 74.)

As percentages of net sales.— During the 1922–23 season, the twelve many-station dealers expended an average of $22.19 for operating costs out of every $100 of net sales. One dealer spent approximately $1 for operating costs for every $3 of net sales. On the average, every $100 worth of potatoes sold carried with it the following expenses: labor and

TABLE 72. GROUP OPERATING COSTS AND RETURNS PER BUSHEL, 12 MANY-STATION DEALERS, SEASON 1922–23

	Western New York										Weighted average for western New York dealers	Northern New York		Weighted average for western and northern New York dealers
Dealer no.	151	154	155	156	157	158	159	160	163	164		152	162	
Number of bushels	180,502	213,498	66,723	295,465	249,801	159,803	344,753	223,367	35,325	81,687		46,974	51,281	
Labor and management	$0.03674	$0.04502	$0.04032	$0.05030	$0.04473	$0.05454	$0.05132	$0.03581	$0.03938	$0.06805	$0.04663	$0.02424	$0.06678	$0.04663
Warehouse costs	0.00889	0.01463	0.00741	0.01301	0.01157	0.01419	0.00495	0.00583	0.01238	0.01898	0.01038	0.00907	0.01410	0.01045
Equipment costs	0.00188	0.00060	0.00233	0.00254	0.00111	0.00115	0.00322	0.00272	0.00131	0.00352	0.00210	0.00023	0.00132	0.00203
General office costs	0.01162	0.00853	0.02618	0.01727	0.01059	0.01792	0.01302	0.02109	0.01701	0.03273	0.01553	0.03098	0.03197	0.01634
Telephone and telegraph	0.00537	0.00522	0.00323	0.00589	0.00997	0.00578	0.00469	0.00183	0.00530	0.00430	0.00541	0.00426	0.00429	0.00535
Bank exchange	0.00156	0.00149		0.00124	0.00305	0.00129	0.00037	0.00040	0.00349		0.00123	0.00002	0.00585	0.00132
Brokerage and commissions	0.00593	0.01593	0.00660	0.00745	0.01071	0.02118	0.01062	0.01217	0.00226	0.00905	0.01101	0.00589	0.00712	0.01315
Linings	0.00848	0.00333	0.00182	0.00206	0.00350	0.00303	0.00152	0.00303	0.00171	0.00470	0.00323	0.00510	0.00203	0.00324
Sacks, tags, and twine	0.04473	0.03760	0.03334	0.03987	0.03445	0.05332	0.04233	0.04754	0.02971	0.05212	0.04201	0.01185	0.00044	0.04019
Miscellaneous	0.01267	0.01675	0.00545	0.01386	0.01098	0.01156	0.00869	0.01568	0.02132	0.00580	0.01224	0.01034	0.03209	0.01271
Total operating costs	$0.13788	$0.14910	$0.12668	$0.15349	$0.14066	$0.18396	$0.14073	$0.14610	$0.13387	$0.19925	$0.14977	$0.10198	$0.25599	$0.15141
Amount paid to growers	0.53453	0.52977	0.59902	0.56424	0.50747	0.49332	0.50184	0.58017	0.55055	0.52234	0.52990	0.04253	0.03801	0.53546
Total cost of potatoes to shipper	$0.67241	$0.67887	$0.63570	$0.71773	$0.64813	$0.67728	$0.64257	$0.72627	$0.69042	$0.72159	$0.67967	$0.74451	$0.89400	$0.68687
Gross sales	$0.78600	$0.85746	$0.81800	$0.91160	$0.84200	$0.84097	$0.78155	$0.91991	$0.90818	$0.85852	$0.84802	$0.84841	$1.04207	$0.85373
Claims and allowances	$0.01040	$0.02330	$0.00520	$0.00515	$0.01101	$0.01519	$0.00593	$0.01892	$0.01692	$0.00472	$0.01203	$0.00549		$0.01155
Freight	0.14347	0.17071	0.16506	0.17673	0.16474	0.17707	0.11488	0.17670	0.16229	0.16774	0.15859	0.18067	$0.19749	0.16014
Net sales	$0.62613	$0.66336	$0.64768	$0.72972	$0.66625	$0.64871	$0.66074	$0.72429	$0.72897	$0.68606	$0.67800	$0.66225	$0.84548	$0.68204
Net profit			$0.01198	$0.01199	$0.01812			$0.01817		$0.03855				
Net loss	$0.04628	$0.01551				$0.02857			$0.00198		$0.03553	$0.00167	$0.08226	$0.04852	$0.00483

TABLE 73. GROUP OPERATING COSTS AND RETURNS PER HUNDREDWEIGHT, 12 MANY-STATION DEALERS, SEASON 1922–23

	Western New York										Weighted average for western New York dealers	Northern New York		Weighted average for western and northern New York dealers
Dealer no.	151	154	155	156	157	158	159	160	163	164		152	162	
Number of hundredweights	108,301.45	128,098.73	40,034.00	177,279.19	149,880.49	95,881.85	206,852.03	134,019.92	21,195.25	49,012.00		28,184.48	30,768.71	
Labor and management	$0 06126	$0 07505	$0.06721	$0.08385	$00.7457	$0.09090	$0.08555	$0.05969	$0.06564	$0.11342	$0 07774	$0.04042	$0 11131	$0 07772
Warehouse costs	0 01482	0.02439	0.01235	0.02169	0.01929	0.02365	0.00825	0 00972	0.02064	0.03164	0.01731	0.01512	0 02351	0.01742
Equipment costs	0 00314	0.00101	0.00389	0.00424	0.00185	0.00191	0.00538	0.00454	0 00219	0 00587	0.00350	0.00039	0 00222	0.00339
General office costs	0.01937	0.01423	0.04363	0.02879	0.01766	0.02987	0.02171	0.03516	0.02835	0.05457	0.02589	0.05164	0 05330	0.02723
Telephone and telegraph	0.00895	0.00871	0.00538	0.00982	0.01663	0.00963	0.00782	0.00306	0.00884	0.00718	0.00902	0.00711	0.00715	0.00893
Bank exchange	0 00260	0.00249	.....	0.00207	0.00509	0.00216	0.00063	0.00068	0.00583	.....	0 00205	0.00005	0.00975	0 00221
Brokerage and commissions	0 00990	0.02656	0.01100	0.01242	0.01786	0.03530	0.01770	0.02030	0 00377	0 01510	0 01835	0.00983	0.16187	0.02192
Linings	0.01415	0 00555	0.00303	0.00344	0.00584	0.00505	0.00254	0.00505	0.00286	0.00783	0 00538	0.00852	0 00340	0.00541
Sacks, tags, and twine	0.07456	0.06267	0.05558	0.06646	0.05743	0.08886	0.07056	0.07924	0.04952	0.08687	0 07001	0.01976	0.00075	0 06698
Miscellaneous	0.02105	0.02784	0.00907	0.02305	0.01822	0.01922	0.01443	0.02606	0.03548	0.00960	0.02037	0.01713	0.05341	0 02115
Total operating costs	$0 22980	$0.24850	$0.21114	$0.25583	$0.23444	$0.30661	$0.23457	$0.24350	$0.22312	$0.33208	$0 24962	$0.16997	$0.42667	$0.25236
Amount paid to growers	0.89090	0.88298	0.84836	0.94043	0.84579	0.82221	0.83642	0.96695	0.92758	0.87059	0 88317	1 07088	1.06335	0.89244
Total cost of potatoes to shipper	$1.12070	$1 13148	$1.05950	$1.19626	$1.08023	$1.12882	$1.07099	$1.21045	$1.15070	$1.20267	$1.13279	$1.24085	$1 49002	$1.14480
Gross sales	$1.30999	$1.42913	$1.36333	$1.51939	$1.40336	$1.40162	$1.30260	$1.53320	$1.51363	$1 43088	$1 41437	$1.41402	$1.73830	$1.42289
Claims and allowances	$0.02734	$0.03899	$0.00876	$0.00860	$0 01835	$0.02533	$0.00990	$0.03155	$0.02821	$0.00788	$0.02005	$0.00916		$0 01926
Freight	0.23912	0.28452	0.27510	0.29457	0 27457	0.29512	0.19148	0.29452	0 27048	0.27957	0.26432	0.30113	$0.32915	0.26691
Net sales	$1.04354	$1.10561	$1.07947	$1.21622	$1.11044	$1.08117	$1.10122	$1.2071	$1.21494	$1.14343	$1 13000	$1.10373	$1.40915	$1 13672
Net profit	.....	.....	$0.01997	$0.01996	$0.03021	.....	$0.03023	.....	$0.06424	.....	.....	.....	.....	.....
Net loss	$0.07716	$0.02587	.....	.....	.....	$0.04765	.....	$0.00332	.....	$0.05924	$0.00279	$0.13712	$0 08087	$0 00808

TABLE 74. GROUP OPERATING COSTS AS PERCENTAGES OF TOTAL OPERATING COSTS, 12 MANY-STATION DEALERS, 1922–23

	Western New York										Average for western New York dealers (per cent)	Northern New York		Average for western and northern New York dealers (per cent)
Dealer no.	151	154	155	156	157	158	159	160	163	164		152	162	
Groups	Per cent											Per cent		
Labor and management	26.66	20.19	31.83	32.77	31.81	29.65	36.47	24.51	29.42	34.15	31.15	23.78	26.08	30.80
Warehouse costs	6.44	9.81	5.86	8.48	8.23	7.71	3.52	3.99	9.25	9.53	6.94	8.90	5.51	6.90
Equipment costs	1.37	0.43	1.84	1.66	0.79	0.63	2.29	1.86	0.98	1.77	1.40	0.23	0.52	1.35
General office costs	8.43	5.73	20.67	11.25	7.53	9.75	9.25	14.44	12.71	16.43	10.37	30.38	12.49	10.79
Telephone and telegraph	3.90	3.50	2.55	3.84	7.09	3.14	3.34	1.26	3.97	2.16	3.62	4.18	1.68	3.54
Bank exchange	1.13	1.00	.....	0.81	2.17	0.71	0.27	0.28	2.61	.....	0.82	0.03	2.28	0.88
Brokerage and commissions	4.31	10.69	5.21	4.86	7.62	11.51	7.55	8.34	1.69	4.55	7.35	5.79	37.94	8.69
Linings	6.16	2.23	1.44	1.34	2.49	1.65	1.08	2.08	1.28	2.36	2.61	5.01	0.80	2.14
Sacks, tags, and twine	32.45	25.22	26.32	25.98	24.50	28.98	30.08	32.54	22.19	26.16	28.05	11.63	0.18	26.54
Miscellaneous	9.15	11.20	4.28	9.01	7.77	6.27	6.15	10.70	15.90	2.89	8.14	10.07	12.52	8.37

TABLE 75. GROUP OPERATING COSTS AS PERCENTAGES OF NET SALES, 12 MANY-STATION DEALERS, 1922–23

	Western New York										Average for western New York dealers (per cent)	Northern New York		Average for western and northern New York dealers (per cent)
Dealer no.	151	154	155	156	157	158	159	160	163	164		152	162	
Groups	Per cent											Per cent		
Labor and management	5.87	6.79	6.23	6.89	6.71	8.35	7.77	4.94	5.40	9.92	6.87	3.66	7.90	6.83
Warehouse costs	1.42	2.20	1.14	1.78	1.74	2.18	0.75	0.81	1.70	2.77	1.53	1.37	1.67	1.53
Equipment costs	0.30	0.09	0.36	0.35	0.16	0.18	0.49	0.38	0.18	0.51	0.31	0.04	0.16	0.30
General office costs	1.85	1.29	4.04	2.37	1.59	2.75	1.97	2.91	2.33	4.77	2.29	4.68	3.78	2.40
Telephone and telegraph	0.86	0.79	0.50	0.81	1.50	0.89	0.71	0.25	0.73	0.63	0.80	0.64	0.51	0.79
Bank exchange	0.25	0.23	.....	0.17	0.46	0.20	0.06	0.06	0.48	.....	0.18	0.01	0.69	0.19
Brokerage and commissions	0.95	2.40	1.02	1.02	1.61	3.25	1.61	1.68	0.31	1.32	1.62	0.89	11.49	1.93
Linings	1.36	0.50	0.28	0.28	0.53	0.46	0.23	0.42	0.23	0.68	0.48	0.77	0.24	0.48
Sacks, tags, and twine	7.14	5.67	5.15	5.46	5.17	8.17	6.41	6.56	4.08	7.60	6.20	1.79	0.05	5.89
Miscellaneous	2.02	2.52	0.84	1.90	1.64	1.77	1.30	2.16	2.92	0.84	1.80	1.55	3.79	1.85
Total operating costs	22.02	22.48	19.56	21.03	21.11	28.20	21.30	20.17	18.36	29.04	22.08	15.40	30.28	22.19
Claims and allowances	2.62	3.53	0.81	0.71	1.05	2.33	0.90	2.61	2.32	0.69	1.77	0.83	.....	1.69

management, $6.83; warehouse costs, $1.53; equipment costs, 30 cents; general office costs, $2.40; telephone and telegraph, 79 cents; bank exchange, 19 cents; brokerage and selling commissions, $1.93; linings, 48 cents; sacks, tags, and twine, $5.89; and miscellaneous expenses, $1.85. The average dealer was called upon also to allow claims at the rate of $1.69 per $100 of net sales. The variations in the proportions of the net sales expended for costs by the individual dealers are shown in table 75.

Score cards showing relative standing in efficiency.— The many-station dealers studied in 1922–23 were scored on the same basis as in 1921–22 (table 76). On the basis of costs and allowances, dealer no. 155 was the most efficient. His general office costs and equipment costs, however, were above the average. This dealer ranked ninth in efficiency on returns (table 77). Dealer no. 159 ranked third in efficiency on costs and allowances. The items on which his costs were above the average were labor and management, equipment costs, and sacks, tags, and twine. He ranked only eleventh in returns. This may indicate that more attention on this dealer's part to the selling end of the business is advisable.

Dealer no. 156, whose business was studied also in the previous season, improved his position during the season of 1922–23. In the first season, this dealer ranked ninth in efficiency in costs and allowances; in the second season, he ranked fifth. Several items of cost were still above the average, notably warehouse, equipment, and telegraph and telephone costs.

TABLE 76. SCORE CARD OF OPERATING COSTS, AND CLAIMS AND ALLOWANCES, 12 MANY-STATION DEALERS, SEASON 1922–23*

Dealer no.	151	152	154	155	156	157	158	159	160	162	163	164
Groups	Per cent of average											
Labor and management	79	52	96	87	108	96	117	110	77	144	84	146
Warehouse costs	83	85	147	69	122	108	133	46	55	133	115	178
Equipment costs	89	11	28	110	120	53	54	152	129	63	61	167
General office costs	68	182	50	153	101	62	105	76	123	188	99	192
Telephone and telegraph	118	94	115	71	130	220	128	103	40	95	117	95
Brokerage and commissions	31	31	84	35	39	56	112	56	64	514	12	48
Linings	247	150	97	53	60	102	88	44	88	60	50	137
Sacks, tags, and twine	117	31	99	88	105	91	140	111	125	1	78	137
Miscellaneous	96	79	128	41	106	84	88	66	120	246	162	44
Claims and allowances	135	45	192	43	43	91	125	49	156	0	139	49
Total score	1,063	760	1,026	750	934	963	1,090	813	977	1,444	917	1,183

* The lowest score is the most efficient. Average = 1000.

TABLE 77. Score Card of Returns, 12 Many-Station Dealers, Season 1922–23*

Dealer no.....	151	152	154	155	156	157	158	159	160	162	163	164
Groups	Per cent of average											
Amount paid to growers.....	99	120	98	95	105	94	92	93	108	119	103	97
Net sales.....	90	96	96	94	105	96	94	95	105	123	105	99
Total score....	189	216	194	189	210	190	186	188	213	242	208	196

* The highest score is the most efficient. Average = 200.

WEEKLY VOLUME OF SHIPMENTS, AND PRICE

SEASON 1921–22

The potato-shipping season of 1921–22, in up-state New York, began during the week of August 29, 1921, and ended during the week of June 18, 1922. Slightly more than 52 per cent of the total volume had been shipped by November 26, 1921, in a period covering approximately three months. About 21 per cent moved to market from November 27, 1921, to January 28, 1922, and about 16 per cent from January 29 to March 25; the remaining 11 per cent were shipped between March 26 and June 24. This movement of the crop to market indicates roughly the time of the year when the growers decided to sell their potatoes. In New York State very few potatoes were stored in warehouses at the trackside. If any volume was shipped at a particular time, it was because the growers decided, for one reason or another, to haul and sell potatoes at that time. The actual dates when these potatoes moved to market, and the relation between weather, prices, and shipments throughout the season, are shown in figure 39. The net wholesale price (f.o.b. shipping point) started in the fall of 1921 at the relatively high level of $1.67 per bushel. This was due largely to a short mid-season crop. The price declined steadily through the season, and reached 83 cents per bushel during the week of June 17, 1922.

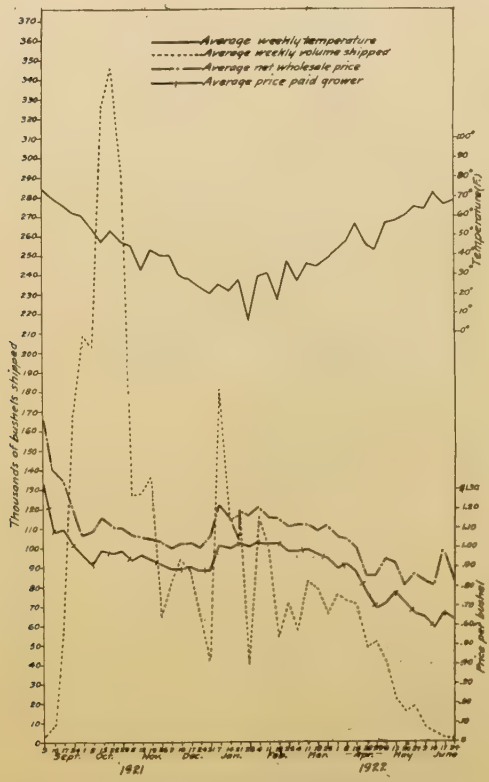


FIGURE 39. WEEKLY VOLUME SHIPPED, TEMPERATURE, NET WHOLESALE PRICE, AND PRICE PAID TO GROWERS. TWENTY-FOUR SHIPPING AGENCIES, SEASON 1921–22

Approximately 52 per cent of the potatoes were sold at prices varying from $1.63 to $1 per bushel (net wholesale price f.o.b. shipping station), and averaging about $1.11 per bushel; about 21 per cent of the total volume were sold at net prices ranging

from $1 to $1.17 per bushel, and averaging approximately $1.09; about 16 per cent were sold at prices ranging from $1.21 to $1.09 per bushel, and averaging about $1.13; and the remaining 11 per cent were sold at prices ranging from $1.06 to 83 cents per bushel, and averaging about 90 cents. There was a similar variation throughout the season in the price paid the grower. On the whole, the grower hauled and sold his potatoes during the 1921–22 season at the most favorable time from the point of view of price. A sharp fall in temperature in December, January, February, and March was usually followed by an increase in price and in volume of shipment during the next week.

While the total volume handled by the cooperatives, the single-station dealers, and the many-station dealers varied considerably, the shipments of these three groups followed about the same course throughout the year (figures 40, 41, and 42).

There has been much discussion of the orderly marketing of farm products. Potatoes have usually been included in such discussions. If the term "orderly marketing" means shipping at the time of the year when the grower will receive the most for his

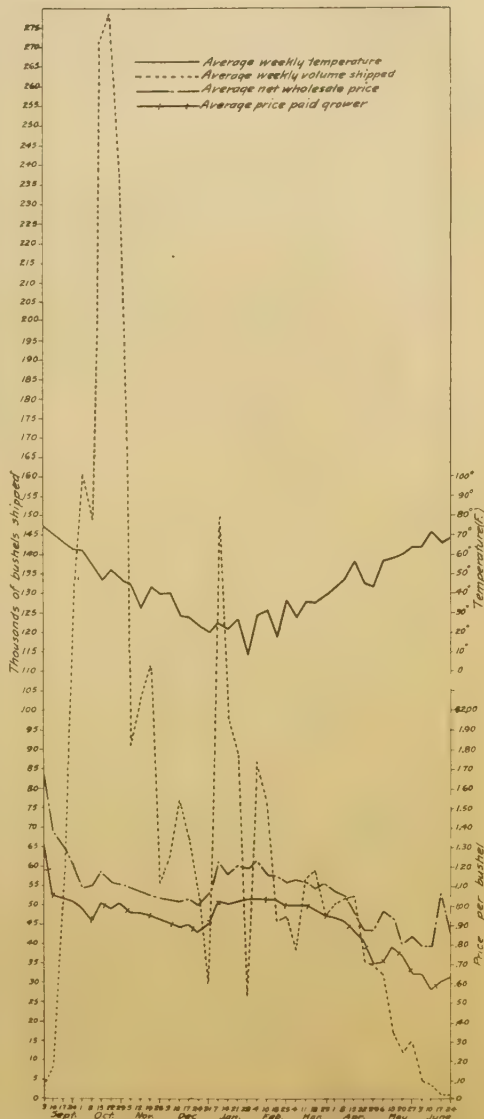


FIGURE 40. WEEKLY VOLUME SHIPPED, TEMPERATURE, NET WHOLESALE PRICE, AND PRICE PAID TO GROWER. MANY-STATION DEALERS, SEASON 1921–22

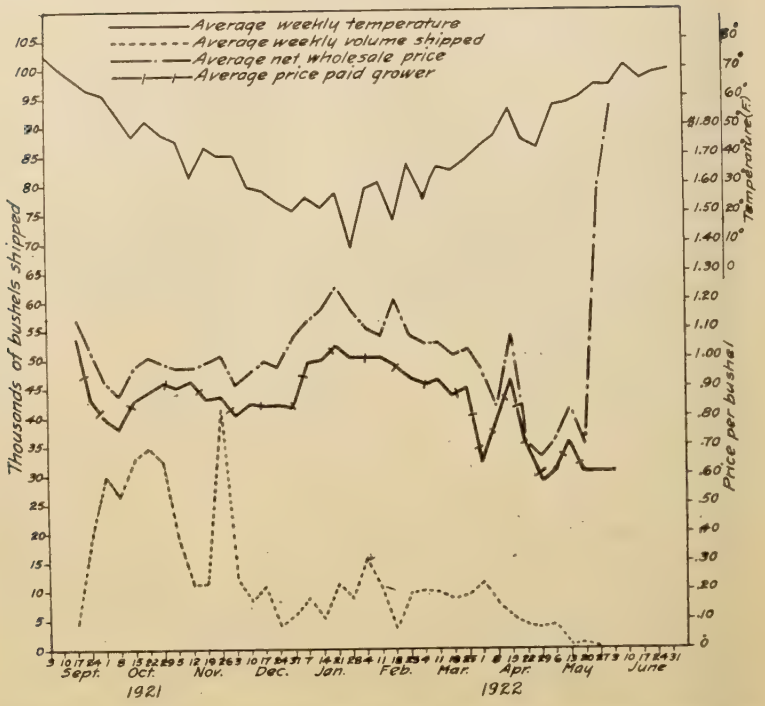


FIGURE 41. WEEKLY VOLUME SHIPPED, TEMPERATURE, NET WHOLESALE PRICE, AND PRICE PAID TO GROWER. SINGLE-STATION DEALERS, SEASON 1921–22

product, then New York growers appear to have marketed their potatoes in an orderly manner during the 1921–22 season. "Orderly marketing," however, as popularly used, means the movement to market of a certain proportion of the marketable crop each month or week. The percentage of the total volume shipped weekly by these three shipping agencies during the 1921–22 season is shown in figure 43. The black dotted line indicates the volume that would have gone to market if equal volumes had been shipped each week during the forty-three weeks of the shipping season. The cooperatives apparently came slightly closer to "feeding the market" than did either of the other two types of agencies, since from the chart it appears that their shipments varied the least from the dotted line. There was little difference, however, after the heavy shipping season was over in September and October. None of the agencies approached the alleged ideal very closely, and it seems to have been good business not to do so during the 1921–22 season. Reference to figures 39 to 42 will show that this kind of "orderly marketing" would have meant the sale of approximately 30 per cent of these potatoes at considerably lower prices than were obtained by following the market.

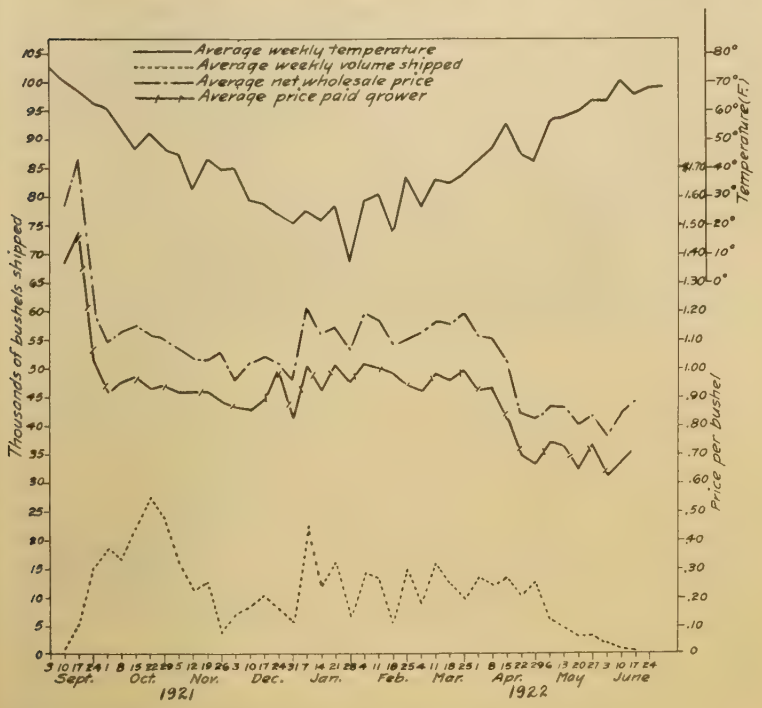


FIGURE 42. WEEKLY VOLUME SHIPPED, TEMPERATURE, NET WHOLESALE PRICE, AND PRICE PAID TO GROWER. COOPERATIVES, SEASON 1921–22

The erratic movement of these potatoes to market, as illustrated in figures 39 to 42, at once explains the widespread use of the commission and joint-account methods of loading among the many-station dealers, and the hiring of managers on the unit-handled basis among the cooperatives. Few business organizations could afford to hire on salary a force adequate to handle 2125 bushels in one week, none in the next two weeks, 6580 bushels in the fourth week, and none in the following week. Cooperative managers and private dealers faced just such problems in 1921–22. This would explain the efforts to hire on a per-unit basis and thus avoid payment for the large amount of idle time.

Comparisons of the prices paid to growers by the three types of shipping agencies during the 1921–22 season are given in figure 44. The prices paid to the growers by the many-station dealers and the cooperatives, respectively, kept within a few cents of each other throughout the shipping season. Early in the season, at least one of the cooperatives shipped green stock to market and was fortunate in obtaining high prices for it with very small losses. Of the three types of agencies, the cooperatives

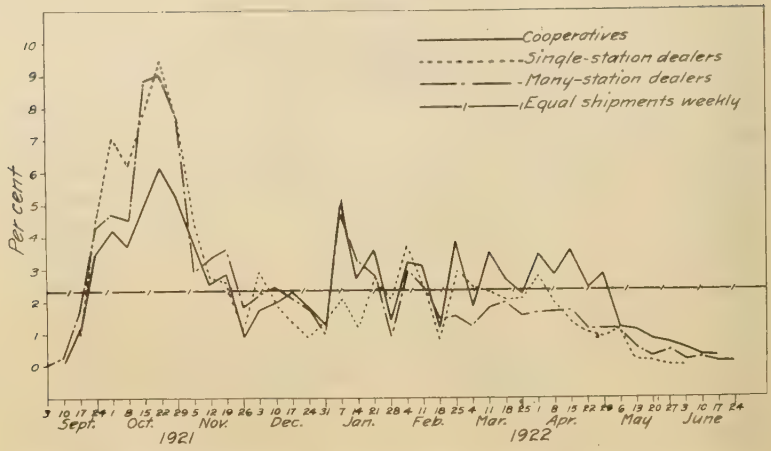


FIGURE 43. PERCENTAGE OF TOTAL VOLUME SHIPPED WEEKLY, COMPARED WITH EQUAL WEEKLY SHIPMENTS, 24 SHIPPING AGENCIES, SEASON 1921–22

started the season paying the highest price per bushel to the growers. From October 15 to December 17, the many-station dealers paid from 2 to 6 cents more per bushel than did the cooperatives. During the week ending December 24, the cooperatives paid approximately 10 cents more per bushel than did the many-station dealers. From December 31 to

FIGURE 44. AVERAGE WEEKLY PRICE PER BUSHEL PAID TO GROWER, 24 SHIPPING AGENCIES, SEASON 1921–22

March 18, the many-station dealers again paid from 1 to 8 cents more per bushel than did the cooperatives. The respective prices paid by these two agencies were alternately high and low for the remainder of the season. These data should not necessarily be construed as showing an attempt on the part of the many-station dealers to drive the cooperatives out of business. The dealers were in sharp competition among themselves, and loaded at a large number of stations where there were no cooperative associations. In view of the heavy losses incurred by them, it seems likely that these many station dealers actually overpaid the growers during the 1921-22 season. With the exception of one or two weeks, the single-station dealers paid throughout the season a lower price to growers than did the other two types of agencies.

Comparisons of the net wholesale prices per bushel (f.o.b. shipping point) received by these three types of agencies are given in figure 45.

Figure 45. Net wholesale prices per bushel received f. o. b. shipping point, 24 shipping agencies, season 1921–22

Early in the season, the cooperatives seem to have received the best prices; but from the beginning of the heavy shipping season to the end of the season, there was little difference in this respect between the cooperatives and the many-station dealers. The single-station dealers netted much lower prices throughout the heavy shipping season and toward the end. Only for a relatively short period during the middle of the season did the net wholesale prices for the single-station dealers approach those of the cooperatives and the many-station dealers.[17]

[17] The actual prices paid weekly are given in the appendix (page 166).

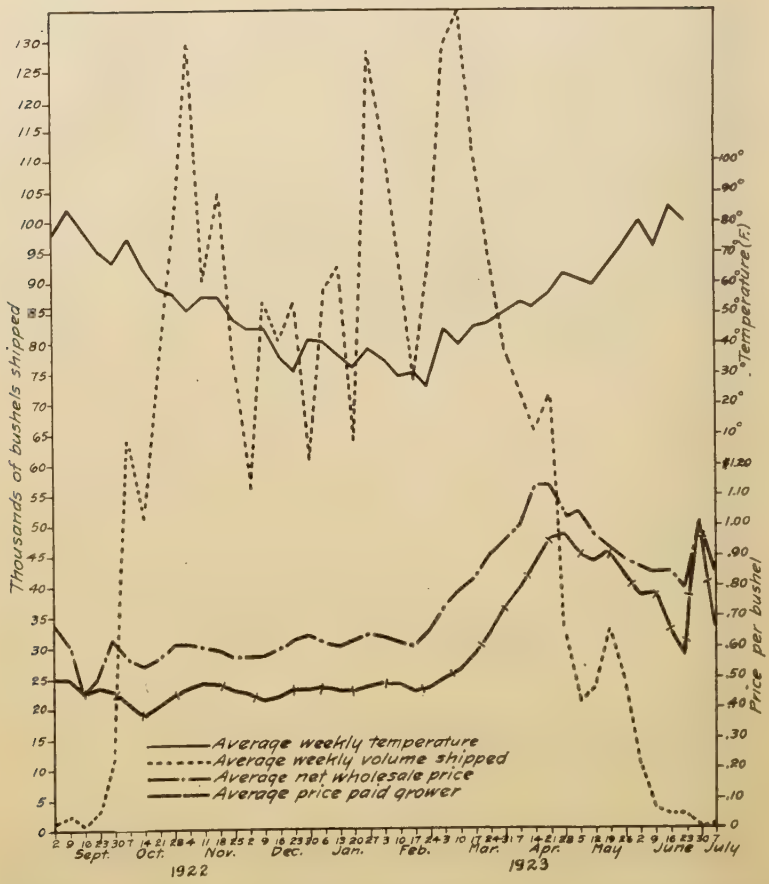


FIGURE 46. WEEKLY VOLUME SHIPPED, TEMPERATURE, NET WHOLESALE PRICE, AND PRICE PAID TO GROWER. THIRTY-FOUR SHIPPING AGENCIES, SEASON 1922–23

SEASON 1922–23

There were no less than three periods during the 1922-23 season when haulings approached peak proportions (figure 46). The first period began about September 30 and ended about December 2; the second period began about December 30 and ended about February 17; and the third period was from February 17 to March 31. During the first period, 27 per cent of the total volume was shipped, during the second period 24 per cent, and during the third period 23 per cent.

It is difficult to account satisfactorily for these peak loadings. The price started relatively low early in the season, and growers were not very anxious to sell. The heavy loadings during October and November were probably due to sales by growers who were obliged to sell their potatoes because of a lack of storage space or for financial reasons. It is possible that the need of money for the holidays and for taxes would largely account for the heavy haulings from December 30 to January 17. The increase in price was so slight that it could hardly have been a substantial factor. Prices started to rise comparatively rapidly from February 17 to April 14, and this condition apparently had the effect of bringing about the heaviest loadings of the season. Although prices remained relatively high until the end of the season, the bulk of the crop had been sold by April 14.

In general, the loadings by many-station dealers followed substantially the course outlined in the preceding paragraphs (figure 47). The twelve

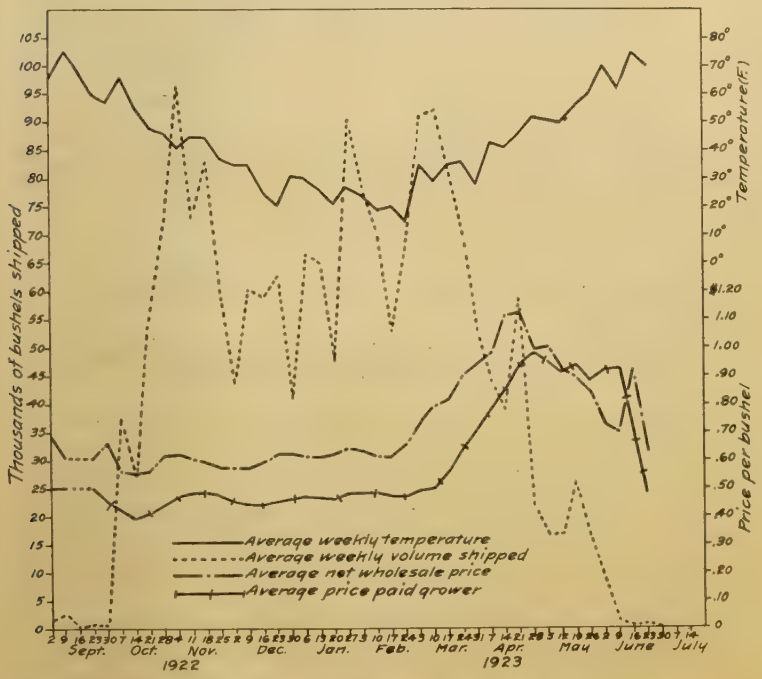


Figure 47. Weekly volume shipped, temperature, net wholesale price, and price paid to grower. Many-station dealers, season 1922–23

cooperatives were again the type of agency which approached most nearly to "feeding the market." Their loadings were comparatively even throughout the season, but were rather insignificant in volume at

FIGURE 48. WEEKLY VOLUME SHIPPED, TEMPERATURE, NET WHOLESALE PRICE, AND PRICE PAID TO GROWER. COOPERATIVES, SEASON 1922–23

the time when prices were the highest (figure 48). The single-station dealers loaded a smaller amount during the early part of the season (figure 49), and managed to get a fair proportion of their volume on the market during the period of relatively high prices.

If all of these types of agencies had practiced a "feed-the-market" policy, they would probably have realized somewhat higher average prices for the year as a result of the upward trend of prices toward the end of the season. On the other hand, they might have lost considerably as a result of sharp drops in prices during May and June (figure 50).

From the standpoint of the prices paid to the growers, there was very little difference between these types of agencies up to March 14. All of them paid within 2 or 3 cents per bushel of the same price during the six months prior to that date. The cooperatives paid the growers from 4 to 8 cents more per bushel than did the single-station dealers from March 14 to the end of the season (figure 51). The many-station dealers paid the lowest prices during this period.[18]

[18] The actual prices paid weekly are given in the appendix (page 166).

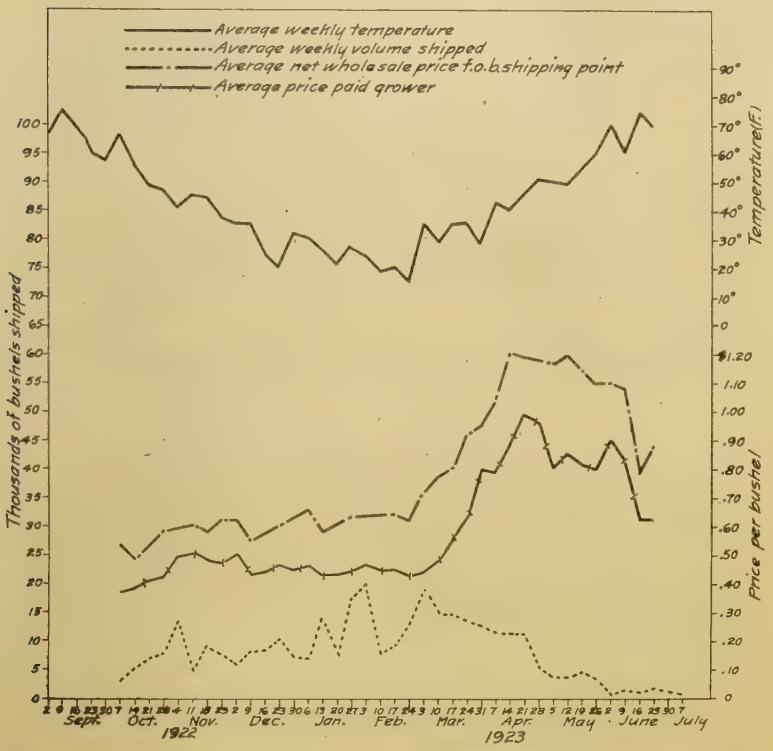


FIGURE 49. WEEKLY VOLUME SHIPPED, TEMPERATURE, NET WHOLESALE PRICE, AND PRICE PAID TO GROWER. SINGLE-STATION DEALERS, SEASON 1922–23

From the standpoint of the net wholesale prices (figure 52), there was likewise very little difference between the three types of agencies during the first six months of the season. From March 14 to the end of the season, the single-station dealers had the highest net price, the cooperatives were next in rank, and the many-station dealers were the lowest.

COSTS

BY OPERATIONS

None of the shipping agencies kept any sort of time records which would enable them to ascertain the cost of the various operations in the handling of potatoes. Practically all of the managers of the agencies had had considerable experience in the handling and shipping of potatoes, and were able to make very close estimates as to the time spent in the various operations. A questionnaire was sent to a number of loaders who were

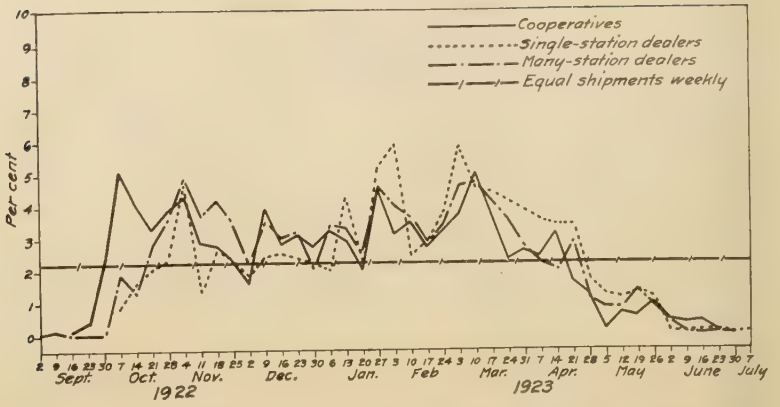


FIGURE 50. PERCENTAGE OF TOTAL VOLUME SHIPPED WEEKLY, COMPARED WITH EQUAL WEEKLY SHIPMENTS, 34 SHIPPING AGENCIES, SEASON 1922–23

employed by many-station dealers, and their estimates also were obtained. These estimates were not used in calculating costs for individual shippers, but were averaged for the entire number of shipping agencies. It was hoped that in this manner errors in estimating would balance one another. Care was taken in allocating expenses to the various operations, but the cost of each should be regarded only as an approximation. A comparison

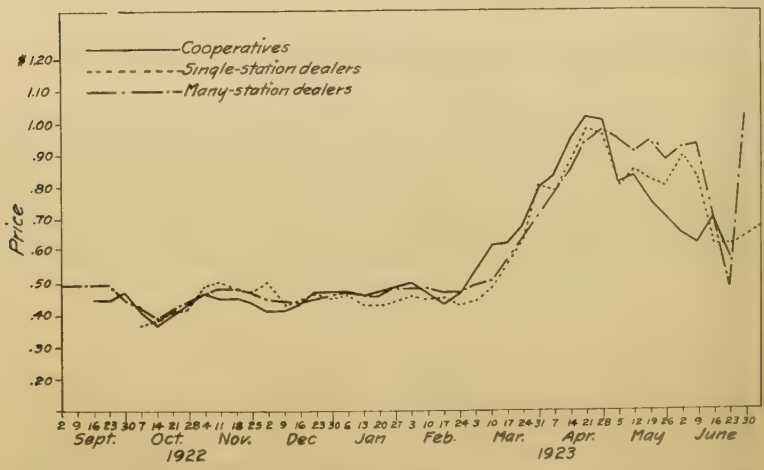


FIGURE 51. AVERAGE WEEKLY PRICE PER BUSHEL PAID TO GROWER, 34 SHIPPING AGENCIES, SEASON 1922–23

Figure 52. Net wholesale price per bushel received f. o. b. shipping point, 34 shipping agencies, season 1922–23

of the costs in tabular form, with an average for the two seasons, is given in table 78. The average estimates used may be found in the appendix (page 165).

TABLE 78. Comparison of Average Costs per Bushel, by Operations, Seasons 1921–22 and 1922–23

Operation	Costs per bushel		
	Season 1921–22, 24 shipping agencies	Season 1922–23, 34 shipping agencies	Average for both seasons, 58 shipping agencies
Buying and selling	$0.02911	$0.02912	$0.02912
Grading and sacking	0.04201	0.04009	0.04105
Permanent storage	0.04823	0.07707	0.06265
Binning and sorting	0.04509	0.03715	0.04112
Preparing car	0.00709	0.00773	0.00741
Loading car, sacked	0.00824	0.00900	0.00862
Brokerage and commissions	0.01523	0.01946	0.01735
Sacks, tags, and twine	0.04104	0.04046	0.04075
Grading and loading, bulk	0.02531	0.03388	0.02960
Grading, sacking, and loading in sacks, total	0.09129	0.08955	0.09042

Season 1921–22

During the 1921–22 season, the average cost (not including brokerage or commissions) of buying and selling 3,516,143 bushels of potatoes was 2.911 cents per bushel. This cost really represents office overhead expenses per bushel.

The average cost of grading and sacking 2,818,715 bushels of potatoes was 4.201 cents per bushel.

Only a very small quantity of potatoes, 81,978 bushels, was stored. The average cost of storing was 4.823 cents (approximately 5 cents) per bushel, not including shrinkage or other losses.

Approximately one-sixth of the potatoes received were run into bins and then resorted before finally being sacked or loaded in bulk into a car. The average cost of binning and sorting potatoes in this manner was 4.509 cents per bushel. Green potatoes purchased in the early fall, which had to be rehandled in this way, were thus almost twice as expensive to handle as was mature stock received later in the year.

The cost of sweeping, lining, and heating cars amounted to 0.709 cent (approximately three-fourths of a cent) per bushel handled.

The cost of loading sacked potatoes into a car amounted to 0.824 cent (approximately four-fifths of a cent) per bushel.

The cost of grading and loading potatoes in bulk was slightly less than that of loading in sacks (excluding the cost of sacks, tags, and twine). On the average, the cost of grading and loading potatoes in bulk amounted to 2.531 cents per bushel, as compared with a cost of 4.201 cents per bushel for grading and sacking — a difference of 1.7 cents per bushel in favor of loading in bulk.

The cost of sacks, tags, and twine for the 2,818,715 bushels shipped in sacks amounted to 4.104 cents per bushel. This cost added to the cost of grading, sacking, and loading, made a total cost for these items (including sacks, tags, and twine) of 9.129 cents per bushel. It would seem necessary, then, that the price should have been at least 6.67 cents per bushel higher for sacked stock than for stock sold in bulk, if the process of sacking were to prove profitable.

The expense incurred for brokerage and commissions in selling these potatoes amounted to 1.523 cents per bushel.

Other costs, such as bad debts, inspection, trucking, and the like, amounted to 0.957 cent (approximately 1 cent) per bushel.

It should not be inferred that all of the potatoes handled by any one dealer passed through each one of the processes named. Some potatoes were graded directly into sacks, and so sold and shipped; some were graded and loaded in bulk; some were graded into bins and regraded before shipment; a few were stored for the winter. In so far as was possible, the foregoing costs were calculated for the actual volume which passed through each process. The volume shipped was determined from the actual carload records and from the estimates of the loaders.

Season 1922–23

During the 1922–23 season, the average cost (not including brokerage and commissions) of buying and selling 2,776,012 bushels of potatoes

was 2.912 cents (approximately 3 cents) per bushel. This compared closely with the cost for the same process during the 1921-22 season.

A total of 2,284,514 bushels of potatoes were graded and sacked at an average cost of 4.009 cents per bushel. This was about one-fifth of a cent less per bushel than the cost in 1921–22.

Fewer potatoes were stored for the winter in 1922–23, but the cost of storing 55,782 bushels was 7.707 cents per bushel, almost 2.9 cents more than in the previous season. These costs do not include loss from shrinkage.

Approximately one-fifth of the potatoes received were graded and placed in bins, and then resorted before finally being sacked or loaded in bulk and shipped. The average cost of putting 545,875 bushels of potatoes through this process was 3.715 cents per bushel. This compares with a cost of 4.5 cents per bushel in the 1921–22 season.

Not all the cars were heated, but most of them were swept and were lined with building paper or straw, or in some cases with lumber. The expense of thus preparing the cars averaged 0.773 cent per bushel. This cost was nearly the same as for the preceding season.

The cost of loading sacked potatoes averaged 0.9 cent per bushel. This compares with a cost of 0.824 cent for the same service in 1921-22.

On the average, the cost of grading and loading potatoes in bulk was slightly less than that of loading in sacks, being 3.388 cents (about 3.4 cents) per bushel as compared with 4.009 cents for grading and sacking. The extra cost of loading the sacked potatoes, 0.9 cent per bushel, must also be added. This makes a total cost for grading, sacking, and loading (exclusive of sacks, tags, and twine) of 4.909 cents per bushel, as compared with 3.388 cents per bushel for bulk potatoes — a difference in favor of the bulk method of 1.521 cents per bushel.

The cost of sacks, tags, and twine amounted to 4.046 cents per bushel. This cost added to the cost for grading, loading, and sacking (4.909 cents per bushel), made the total cost for these items 8.955 cents per bushel. During this season, the price should have been at least 5.5 cents per bushel higher for sacked stock than for bulk stock if expenses of sacking were to be met.

The average expense for brokerage and commissions amounted to 1.946 cents (approximately 2 cents) per bushel.

COMPARISONS OF COSTS

The relatively small number of records available limits the accuracy of comparisons of average costs and returns from the three types of agencies studied. It may be worth while to make such a comparison, however, with full recognition of its limitations.

Season 1921–22

The average group operating costs and returns for each type of marketing agency, as well as for groups by location, for the 1921-22 season, are shown in table 79.

TABLE 79. GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 24 SHIPPING AGENCIES, SEASON 1921–22

Groups	Average for 7 farmers' cooperative associations	8 single-station dealers	9 many-station dealers	24 shipping agencies	9 northern New York shipping agencies	15 western New York shipping agencies
Labor and management	$27.92	$26.75	$29.05	$28.64	$27.22	$28.86
Warehouse costs	6.07	4.28	6.55	6.22	4.94	6.43
Equipment costs	1.09	0.68	1.10	1.05	0.71	1.10
General office costs	7.26	8.68	8.47	8.35	10.19	8.06
Telephone and telegraph	1.36	1.89	3.52	3.07	1.94	3.25
Bank exchange	1.11	0.79	1.19	1.13	0.79	1.18
Brokerage and commissions	11.46	16.30	7.37	8.93	15.36	7.91
Linings	1.91	2.10	2.03	2.02	2.22	1.99
Sacks, tags, and twine	19.37	3.65	22.33	19.74	4.57	22.15
Miscellaneous	3.24	7.51	8.07	7.42	7.27	7.44
Total operating costs	$ 80.79	$ 72.63	$ 89.68	$ 86.57	$ 75.21	$ 88.37
Amount paid to growers	552.06	567.24	568.97	566.73	563.96	567.17
Total cost of potatoes to shipper	$632.85	$639.87	$658.65	$653.30	$639.17	$655.54
Gross sales	$747.93	$767.52	$764.07	$762.53	$760.76	$762.82
Claims and allowances	$ 9.55	$ 11.06	$ 11.30	$ 11.05	$ 10.21	$ 11.19
Freight	94.01	124.84	106.42	107.13	124.37	104.39
Net sales	$644.37	$631.62	$646.35	$644.35	$626.18	$647.24
Net profit	$11.52	.....	.....	.....	.....	.....
Net loss	.....	$8.25	$12.30	$8.95	$12.99	$8.30

The two items of chief interest in this table are the total operating costs and the amount paid to the grower. Producer and consumer alike are interested in having potatoes handled at the lowest cost possible at country shipping points. The averages given in the table indicate that the single-station dealers handled potatoes at the lowest cost during the 1921–22 season, $72.63 per 600-bushel carload. Cooperatives ranked second, with an average cost of $80.79 per carload. The many-station dealers had the highest handling cost, $89.68 per carload.

The grower, while interested in having his potatoes handled at a low cost, was primarily concerned with the price that he received for them. On the basis of returns to the grower, the many-station dealers held first rank, with an average price paid to the grower of $568.97 per 600-bushel carload, or 94.8 cents per bushel. The single-station dealers ranked second, with $567.24 per carload, or 94.5 cents per bushel. The cooperatives paid the grower an average of $552.06 per carload and had an average profit of $11.52 per carload, which might have been paid to the growers as patronage dividends. Excluding the possible dividends, several of which were paid, the average return to the grower by the cooperatives was approximately 92 cents per bushel; with the possible dividend added, the average price paid to the grower would have been 94 cents per bushel.

The many-station dealers were, on the whole, the best salesmen, having net sales of $646.35 per carload, as compared with $644.37 for the cooperatives and $631.62 for the single-station dealers. The single-station dealers actually sold their potatoes for the highest average price, but they were

obliged to pay higher freight charges than the other two types of agencies and actually netted less than the many-station dealers.

If the amount of claims and allowances per carload may be taken as a criterion, the cooperatives loaded their cars the most carefully. The cooperatives held down their claims and allowances to $9.55 per carload, while the claims for single-station dealers averaged $11.06, and for many-station dealers $11.30.

In view of their operating costs and actual net sales, both the single-stat on dealers and the many-station dealers appear to have overpaid the grower by from 1.37 to 1.72 cents per bushel in 1921–22. This figure may seem relatively insignificant when expressed on a bushel basis, but such an overpayment actually resulted in net losses to one many-station dealer of $13,639.70

The two columns at the right in table 79 afford a basis of comparison for agencies located in western New York with those in northern New York. Labor and management constituted, on the average, slightly more than 33 per cent of the average total operating costs for these agencies in 1921–22. The other large items were sacks, tags, and twine, 22.8 per cent; brokerage and commissions, 10.32 per cent; and general office costs, 9.65 per cent. (Table 80.)

TABLE 80. Group Operating Costs as Percentages of Total Operating Costs, Averages for All Agencies, Season 1921–22

Groups	Average for western New York shippers (per cent)	Average for northern New York shippers (per cent)	Average for western and northern New York shippers (per cent)
Labor and management	32.66	36.20	33.08
Warehouse costs	7.27	6.56	7.19
Equipment costs	1.25	0.94	1.21
General office costs	9.12	13.54	9.65
Telephone and telegraph	3.67	2.58	3.54
Bank exchange	1.34	1.06	1.30
Brokerage and commission	8.96	20.42	10.32
Linings	2.26	2.95	2.34
Sacks, tags, and twine	25.06	6.07	22.80
Miscellaneous	8.41	9.68	8.57

These twenty-four agencies paid an average of $4.44 for labor and management for every $100 of net sales. The next largest item of operating cost was sacks, tags, and twine, which averaged $3.06 for every $100 of net sales; brokerage and commissions took $1.39; and general office costs took $1.30. The total average operating costs averaged $13.43 for every $100 of net sales, and $1.72 was allowed for claims and allowances. (Table 81.)

TABLE 81. GROUP OPERATING COSTS AS PERCENTAGES OF NET SALES, AVERAGES FOR ALL AGENCIES, SEASON 1921–22

Groups	Average for western New York shippers (per cent)	Average for northern New York shippers (per cent)	Average for western and northern New York shippers (per cent)
Labor and management	4.46	4.35	4.44
Warehouse costs	0.99	0.79	0.97
Equipment costs	0.17	0.11	0.16
General office costs	1.25	1.63	1.30
Telephone and telegraph	0.50	0.31	0.47
Bank exchange	0.18	0.13	0.18
Brokerage and commissions	1.22	2.45	1.39
Linings	0.31	0.35	0.31
Sacks, tags, and twine	3.42	0.73	3.06
Miscellaneous	1.15	1.16	1.15
Total operating costs	13.65	12.01	13.43
Claims and allowances	1.73	1.63	1.72

A combination of all the score cards worked out for each type of agency gives some indication of the relative efficiency of the three types. The results are given in tables 82 and 83.

TABLE 82. RELATIVE RANK IN EFFICIENCY ON COSTS, AND ON CLAIMS AND ALLOWANCES, 24 SHIPPING AGENCIES, SEASON 1921–22*

Rank in efficiency	Score	Record no.	Agency
1	568	27	Single-station dealer
2	672	2	Cooperative
3	701	55	Many-station dealer
4	710	4	Cooperative
5	736	30	Single-station dealer
6	775	7	Cooperative
7	785	3	Cooperative
8	793	28	Single-station dealer
9	817	33	Single-station dealer
10	829	51	Many-station dealer
11	888	6	Cooperative
12	961	31	Single-station dealer
13	934	52	Many-station dealer
14	966	60	Many-station dealer
15	1,018	57	Many-station dealer
16	1,050	53	Many-station dealer
17	1,079	54	Many-station dealer
18	1,083	53	Many-station dealer
19	1,115	26	Single-station dealer
20	1,147	5	Cooperative
21	1,157	1	Cooperative
22	1,158	29	Single-station dealer
23	1,183	56	Many-station dealer
24	1,413	32	Single-station dealer

* The lowest score is the most efficient. Average = 1000.

The shipping agency with the greatest efficiency on costs and on claims and allowances was a single-station dealer, no. 27; the agency with the poorest rating in efficiency was also a single-station dealer, no. 32 (table 82). There were four single-station dealers, four cooperatives, and two many station dealers, among the ten agencies ranking highest in efficiency on costs and on claims and allowances. Among the five agencies showing the lowest efficiency there were two single-station dealers, two cooperatives, and one many-station dealer. The many-station dealers seem to have been less efficient in costs and in claims and allowances during the 1921–22 season, than either the single-station dealers or the cooperatives, these agencies being about equal in this respect.

TABLE 83. Relative Rank in Efficiency on Returns, 24 Shipping Agencies, Season 1921–22*

Rank in efficiency	Score	Record no.	Agency
1	257	28	Single-station dealer
2	213	31	Sinlge-station dealer
3	212	3	Cooperative
4	206	51	Many-station dealer
5	204	58	Many-station dealer
6	202	7	Cooperative
7	202	6	Cooperative
8	202	56	Many-station dealer
9	202	53	Many-station dealer
10	200	2	Cooperative
11	200	55	Many-station dealer
12	199	54	Many-station dealer
13	198	60	Many-station dealer
14	195	4	Cooperative
15	195	57	Many-station dealer
16	194	52	Many-station dealer
17	192	5	Cooperative
18	191	1	Cooperative
19	187	32	Single-station dealer
20	184	26	Single-station dealer
21	182	27	Single-station dealer
22	180	30	Single-station dealer
23	171	29	Single-station dealer
24	171	33	Single-station dealer

* The highest score is the most efficient. Average = 200.

The shipping agency with the greatest efficiency on returns was likewise a single-station dealer, no 28, but not the same dealer who was the most efficient in costs. The agency with the poorest rating on returns was also a single-station dealer, no 33. There were four cooperatives, four many-station dealers, and two single-station dealers among the ten agencies ranking highest in efficiency on returns. The five agencies showing the lowest efficiency on returns were all single-station dealers. The many-station dealers and the cooperatives seem to have been on an approximate equality in efficiency on returns, and the single-station dealers were the least efficient type of agency, in 1921–22. (Table 83.)

Season 1922–23

The average group operating costs and returns for each type of marketing agency for the 1922–23 season are shown in table 84. The averages in this table indicate that the many-station dealers handled potatoes at the lowest cost during this season, $90.90 per carload. The single-station dealers had the next lowest cost, $99.84 per carload. The cooperatives had the highest cost, $100.53 per carload. The single-station dealers and the cooperatives were about equally efficient in costs, there being a difference of only 69 cents per carload between them. The many-station dealers were, on the average, about 10 per cent more efficient on costs during the 1922–23 season than the other two types of agencies.

TABLE 84. GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 34 SHIPPING AGENCIES, SEASON 1922–23

Groups	Average for 12 farmers' cooperative associations	10 single-station dealers	12 many-station dealers	34 shipping agencies	25 western New York shipping agencies	9 northern New York shipping agencies
Labor and management	$26.79	$29.50	$27.99	$28.00	$27.13	$32.81
Warehouse costs	7.59	5.71	6.28	6.42	6.43	6.43
Equipment costs	1.82	0.86	1.22	1.27	1.37	0.74
General office costs	10.83	12.06	9.81	10.27	9.57	14.28
Telephone and telegraph	1.27	1.91	3.22	2.72	2.90	1.69
Bank exchange	0.71	1.28	0.80	0.84	0.71	1.59
Brokerage and commissions	15.94	24.58	7.90	11.40	8.18	29.62
Linings	1.94	2.80	1.95	2.06	1.94	2.76
Sacks, tags, and twine	26.15	11.47	24.13	22.84	25.50	7.76
Miscellaneous	7.49	9.67	7.60	7.85	7.06	12.30
Total operating costs	$100.53	$ 99.84	$ 90.90	$ 93.67	$ 90.79	$109.98
Amount paid to growers	317.01	337.28	321.44	322.73	315.16	365.56
Total cost of potatoes to shipper	$417.54	$437.12	$412.34	$416.41	$405.95	$475.54
Gross sales	$526.66	$564.44	$512.50	$521.58	$508.04	$598.17
Claims and allowances	$ 9.59	$ 6.20	$ 6.94	$ 7.29	$ 7.67	$ 5.15
Freight	101.52	110.45	96.14	98.89	96.62	111.72
Net sales	$415.55	$447.79	$409.42	$415.40	$403.75	$481.30
Net profit	.....	$10.67	.....	.....	.....	$5.76
Net loss	$1.99	.....	$2.92	$1.01	$2.20	.....

The situation was different, however, from the standpoint of returns to the grower. The single station dealers paid the growers $337.28 per carload, or about 56.2 cents per bushel; the many-station dealers paid the next highest return, $321.44 per carload, or 53.5 cents per bushel; and the cooperatives paid the growers the least, $317.01 per carload, or 52.8 cents per bushel.

The single-station dealers were, on the average, the best salesmen, since their sales per carload were $447.79 even after paying the high freight cost of $110.45. The cooperatives had the next highest net sales, $415.55 per carload; and the many-station dealers were lowest, with $409.42. The cooperatives and the many-station dealers apparently overpaid the growers, since they experienced losses of $1.99 and $2.92, respectively, per carload.

If the amount of claims and allowances per carload may be taken as a criterion, the single-station dealers loaded their cars most carefully in 1922–23. These dealers held down their claims and allowances to $6.20 per carload, as compared with $6.94 per carload for the many-station dealers and $9.59 per carload for the cooperatives.

The two columns at the right in table 84 afford a basis of comparison for agencies located in western New York with those in northern New York.

Labor and management constituted approximately 3 per cent less of the average total operating costs in 1922–23 than in 1921–22, the figures being 29.88 per cent in the second season as compared with 33.08 per cent in the first. Sacks, tags, and twine took a larger percentage in the second season, however, amounting to 24.38 per cent as compared with 22.8 per cent in 1921–22. Brokerage and commissions, and general office costs, also constituted larger percentages in the second season. (Table 85.)

TABLE 85. Group Operating Costs as Percentages of Total Operating Costs, Averages for all Agencies, Season 1922–23

Groups	Average for western New York shippers (per cent)	Average for northern New York shippers (per cent)	Average for western and northern New York shippers (per cent)
Labor and management	29.89	29.83	29.88
Warehouse costs	7.08	5.85	6.86
Equipment costs	1.51	0.67	1.36
General office costs	10.53	12.98	10.97
Telephone and telegraph	3.20	1.53	2.90
Bank exchange	0.78	1.45	0.90
Brokerage and commissions	9.01	26.94	12.17
Linings	2.13	2.51	2.20
Sacks, tags, and twine	28.09	7.05	24.38
Miscellaneous	7.78	11.19	8.38

Labor and management cost these thirty-four shipping agencies an average of $6.73 for every $100 dollars of net sales (table 86). This was $2.29 higher than the corresponding figure for 1921–22. Sacks, tags, and twine averaged $5.50 for every $100 of net sales, as compared with $3.06 in 1921–22; brokerage and commissions were also higher, being $2.74 as compared with $1.39 in 1921–22. The average total operating costs in 1922–23 amounted to $22.54 for every $100 of net sales, as compared with $13.43 for the 1921–22 season. Claims and allowances, however, were but 3 cents higher during the second season. The greatly reduced net sales price per carload in 1922–23, $415.40 as compared with $644.35 in the previous season, would account for most of these differences.

TABLE 86. GROUP OPERATING COSTS AS PERCENTAGES OF NET SALES, AVERAGES FOR ALL AGENCIES, SEASON 1922–23

Groups	Average for western New York shippers (per cent)	Average for northern New York shippers (per cent)	Average for western and northern New York shippers (per cent)
Labor and management	6.72	6.82	6.73
Warehouse costs	1.59	1.34	1.55
Equipment costs	0.34	0.15	0.31
General office costs	2.37	2.97	2.47
Telephone and telegraph	0.72	0.35	0.65
Bank exchange	0.18	0.33	0.20
Brokerage and commissions	2.02	6.16	2.74
Linings	0.48	0.57	0.50
Sacks, tags, and twine	6.31	1.61	5.50
Miscellaneous	1.75	2.56	1.89
Total operating costs	22.48	22.85	22.54
Claims and allowances	1.90	1.07	1.75

The results of a combination of score cards worked out for each type of agency are given in tables 87 and 88.

The ten agencies ranking highest in efficiency on costs and on claims and allowances (table 87) included five many-station dealers, three single-station dealers, and two cooperatives. The ten agencies ranking lowest

TABLE 87. RELATIVE RANK IN EFFICIENCY ON COSTS, AND ON CLAIMS AND ALLOWANCES, 34 SHIPPING AGENCIES, SEASON 1922–23*

Rank in efficiency	Score	Record no.	Agency
1	750	155	Many-station dealer
2	760	152	Many-station dealer
3	813	159	Many-station dealer
4	822	137	Single-station dealer
5	840	136	Single-station dealer
6	863	103	Cooperative
7	867	102	Cooperative
8	913	129	Single-station dealer
9	917	163	Many-station dealer
10	934	156	Many-station dealer
11	940	127	Single-station dealer
12	949	134	Single-station dealer
13	963	157	Many-station dealer
14	967	104	Cooperative
15	977	160	Many-station dealer
16	977	107	Cooperative
17	1,002	101	Cooperative
18	1,010	130	Single-station dealer
19	1,026	154	Many-station dealer
20	1,035	112	Cooperative
21	1,047	111	Cooperative
22	1,063	151	Many-station dealer

TABLE 87 (*concluded*)

Rank in efficiency	Score	Record no.	Agency
23	1,070	128	Single-station dealer
24	1,090	158	Many-station dealer
25	1,105	131	Single-station dealer
26	1,183	164	Many-station dealer
27	1,192	106	Cooperative
28	1,240	105	Cooperative
29	1,249	110	Cooperative
30	1,381	126	Single-station dealer
31	1,428	109	Cooperative
32	1,444	162	Many-station dealer
33	1,584	135	Single-station dealer
34	1,592	108	Cooperative

* The lowest score is the most efficient. Average = 1000.

included five cooperatives, three single-station dealers, and two many-station dealers. There was no one type of agency outstandingly efficient. The most efficient individual agency was a many-station dealer; the least efficient was a cooperative; but representatives of all three types of agencies were well distributed in rank throughout the whole list.

The ten agencies ranking highest in efficiency on returns (table 88 included four many-station dealers, four single-station dealers, and two cooperatives. The ten agencies ranking lowest included six cooperatives, three single-station dealers, and one many-station dealer. The agency with the highest efficiency on returns was a cooperative, as was also the agency with the lowest efficiency on returns.

TABLE 88. RELATIVE RANK IN EFFICIENCY ON RETURNS, 34 SHIPPING AGENCIES, SEASON, 1922–23*

Rank in efficiency	Score	Record no.	Agency
1	290	105	Cooperative
2	276	131	Single-station dealer
3	252	112	Cooperative
4	242	162	Many-station dealer
5	234	128	Single-station dealer
6	230	127	Single-station dealer
7	225	126	Single-station dealer
8	216	152	Many-station dealer
9	213	160	Many-station dealer
10	210	156	Many-station dealer
11	210	130	Single-station dealer
12	208	163	Many-station dealer
13	204	110	Cooperative
14	201	136	Single-station dealer
15	197	102	Cooperative
16	196	164	Many-station dealer

* The highest score is the most efficient. Average = 200.

TABLE 88 (*concluded*)

Rank in efficiency	Score	Record no.	Agency
17	194	154	Many-station dealer
18	194	108	Cooperative
19	190	157	Many-station dealer
20	189	151	Many-station dealer
21	189	155	Many-station dealer
22	188	159	Many-station dealer
23	188	129	Single-station dealer
24	186	104	Cooperative
25	186	134	Single-station dealer
26	186	158	Many-station dealer
27	182	103	Cooperative
28	182	137	Single-station dealer
29	179	111	Cooperative
30	178	106	Cooperative
31	176	107	Cooperative
32	175	101	Cooperative
33	175	135	Single-station dealer
34	153	109	Cooperative

Since the principle of cooperative marketing is operation at cost, these marketing associations can pay back to the growers only the actual net returns received. Assuming equal efficiency, in a year when dealers generally lost money it would be expected that cooperatives would return lower average prices to the growers.

CONCLUSIONS

It would be difficult to state which of the three types of agencies here discussed performed most efficiently and economically the necessary services incident to receiving and shipping potatoes. Each type had outstanding individual representatives who operated efficiently; each likewise had inefficient representatives. The type of agency is probably not the most important factor. The primary concern is that the agency, of whatever type it may be, shall follow good business principles and be efficiently managed. This seems as likely to occur in one type of agency as in another. It is probable that these three types supplement one another very well and provide the kind of competition necessary to call forth the best efforts for efficiency and economy.

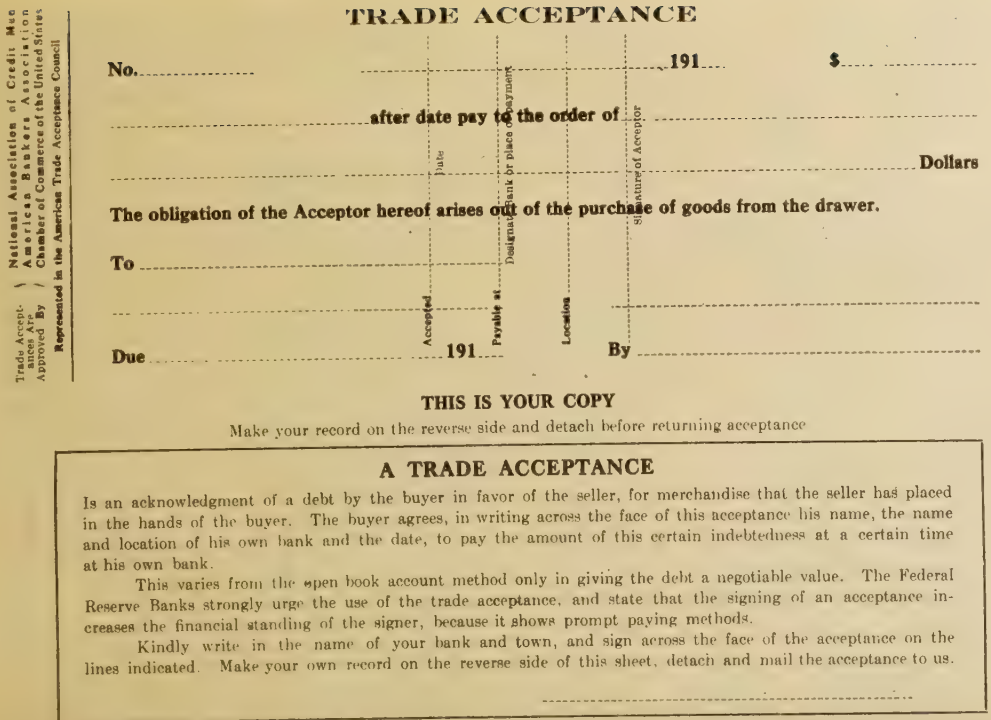
Lack of proper accounting is one of the weak features of the potato-shipping business. A few of the agencies studied were exceptions to this rule. Some did not make adequate allowances for depreciation of warehouses and equipment. Many went through the form of collecting what is called a reserve fund, and then used the fund for current expenses. It is particularly desirable that adequate reserves for depreciation and possible losses should be built up, to meet unfavorable situations. It is only fair to state that many of the shipping agencies realize the weakness of their accounting systems and invite suggestions for improvement. Several have spent large sums of money for systems that have not proved satisfactory.

Dealers and cooperatives alike are often asked to extend loans on potatoes which are as yet unharvested or are stored in the growers' cellars. Growers who ask loans of shipping agencies should recognize the fact that the shipping agency is not a bank and is not adapted for carrying on the credit function. The place to borrow money is a bank, not a cooperative association or a private dealer. The business of all shipping agencies is to handle and ship potatoes. The business of a bank is to sell credit. It is as logical to ask a bank to handle and ship potatoes, as to ask a cooperative or a private dealer to extend credit. If cooperatives or dealers are obliged to extend credit, they frequently have to borrow the necessary funds from a bank at the current rate of interest. Since there is always some risk in loaning money, the cooperatives or dealers, to be safe, have to charge more than the current rate of interest in order to avoid loss.

It is easy to make mistakes in any business, and that of potato shipping is no exception. Occasionally a cooperative or a dealer starts in business without any knowledge of the number of carloads shipped annually from the local station, or of the number which the shipper can reasonably hope to handle. So far as available data show, no cooperative in New York has, as yet, handled 100 per cent of the potatoes shipped from any station. The same is probably true of dealers. The manager of a prominent cooperative organization gives the sound advice that it is best to rent for a while, until the warehouse needs are better known. At any rate, before purchasing or building a warehouse it may be a good policy to ascertain the number of carloads of potatoes shipped from the local station over a period of years (page 155), and then estimate conservatively the number of carloads that the shipping agency can hope to handle. If less than from 30 to 50 carloads are to be handled annually, it is doubtful whether the acquiring of a warehouse can be justified. In such a situation, car-door loading will probably work out more advantageously.

Only a small number of the shipping agencies use their warehouses throughout the year. During the winter, potatoes are hauled at very irregular intervals; and there is much idle time in both winter and summer, and some idle space in warehouses. Certain of the shipping agencies are now handling feed, fertilizer, lime, seed, and a variety of the agricultural products of their region; others are carrying on a very restricted business with only a few commodities. It is probable that the handling of some of the above-named farm supplies, as well as of most of the farm products that are raised in the region and that may be shipped in carloads, would aid in reducing overhead expenses. Several shipping agencies are interested in such a program, but are apprehensive of becoming involved in the extension of a great deal of credit to farmers. It is possible that trade acceptances may prove helpful in solving this problem. These are used widely in the larger centers, but have not as yet been generally used in rural districts. A feed store in southern New York seems to be using them successfully. If reliable farmers desire credit from this feed store, it is provided by these trade acceptances. These acceptances can run from one to three months and are not renewable. The firm operating the feed store charges 1 per cent interest per month on accounts for which acceptances are drawn. The acceptances are backed by the store and are discounted at the local bank. By this method the

farmer pays for his own credit and knows what he is paying for. The feed store gives acceptances only to farmers whose credit is good, and thus has all its capital available for carrying on its business. A blank copy of such an acceptance is shown in figure 53. Bankers are familiar with trade acceptances, and would probably be willing to assist shipping agencies in their use.



TRADE ACCEPTANCE

No. ..... 191... $.....

..... after date pay to the order of .....

..... Dollars

The obligation of the Acceptor hereof arises out of the purchase of goods from the drawer.

To .....

.....

Due ..... 191... By .....

Trade Acceptances Are Approved By / National Association of Credit Men / American Bankers Association / Chamber of Commerce of the United States

Represented in the American Trade Acceptance Council

Date / Accepted / Payable at / Designation of bank or place of payment / Location / Signature of Acceptor

THIS IS YOUR COPY

Make your record on the reverse side and detach before returning acceptance

A TRADE ACCEPTANCE

Is an acknowledgment of a debt by the buyer in favor of the seller, for merchandise that the seller has placed in the hands of the buyer. The buyer agrees, in writing across the face of this acceptance his name, the name and location of his own bank and the date, to pay the amount of this certain indebtedness at a certain time at his own bank.

This varies from the open book account method only in giving the debt a negotiable value. The Federal Reserve Banks strongly urge the use of the trade acceptance, and state that the signing of an acceptance increases the financial standing of the signer, because it shows prompt paying methods.

Kindly write in the name of your bank and town, and sign across the face of the acceptance on the lines indicated. Make your own record on the reverse side of this sheet, detach and mail the acceptance to us.

.....

FIGURE 53. FORM OF TRADE ACCEPTANCE USED BY A FEED STORE IN SOUTHERN NEW YORK

APPENDIX

DATA ON CARLOAD SHIPMENTS OF NEW YORK POTATOES

The data given in table 89 were compiled by the Bureau of Agricultural Economics, United States Department of Agriculture, with the assistance of division superintendents of the railroads over which the potatoes were shipped. Daily reports were made by station agents to superintendents of divisions concerning the produce shipped from each station. These reports were summarized and were wired to the Bureau of Agricultural Economics at Washington, D. C., where all of the data were compiled. These data have not been published, and are used in this study through the courtesy of the Bureau of Agricultural Economics.

TABLE 89. CARLOT SHIPMENTS OF NEW YORK WHITE POTATOES, SEASONS 1922–23, 1921–22, 1920–21

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1920–21
Albany	*	1	.....	.....
Allegany	Alfred	20	49	20
	Almond	26	53	26
	Andover	207	330	191
	Angelica	32	74	22
	Belfast	.....	15	.....
	Belmont	25	20	16
	Birdsall	15	92	39
	Burns	.....	.....	11
	Canaseraga	120	233	148
	Caneadea	14	37	16
	Ceres	14	14	.....
	Cuba	.....	11	.....
	Fillmore	99	159	79
	Rossburg	12	31	.....
	Scio	28	26	17
	Swain	32	69	21
	Wellsville	207	273	166
	Whitesville	118	169	111
	Other stations*	27	10	32
	Total for Allegany County	996	1,665	915
Bronx	*	.....	1	.....e
Broome	Center Village	.....	36	29
	Lisle	.....	11	12
	Nineveh	.....	18	0
	Whitney Point	.....	14	10
	Other stations*	16	10	11
	Total for Broome County	16	89	62
Cattaraugus	Delevan	.....	26	.....
	Farmerville	.....	20	.....
	Freedom	12	29	.....
	West Valley	18	22	.....
	Other stations*	22	38	36
	Total for Cattaraugus County	52	135	36

* Having shipments of less than 10 cars.

TABLE 89 (*continued*)

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1921–20
Cayuga	Auburn	22	24	23
	Cato	13	10	13
	Crocketts			18
	Genoa		15	
	Ira	10		
	Locke	14	30	28
	Moravia	55	78	69
	Sennett	31	29	27
	Weedsport	49	42	53
	Other stations*	32	24	43
	Total for Cayuga County	226	252	274
Chautauqua	*	16	30	25
Chemung	Erin		16	14
	Horseheads			10
	Mill Port		10	
	Other stations*	16	31	25
	Total for Chemung County	16	57	49
Chenango	Afton		22	18
	Greene		10	
	New Berlin		20	15
	Sherburne	28	51	34
	Smyrna		14	13
	Other stations*	12	16	11
	Total for Chenango County	40	133	91
Clinton	Cadyville	213	183	44
	Churubusco	56	126	38
	Ellenburg	116	102	75
	Peru	123	81	60
	Other stations*	7	2	165
	Total for Clinton County	515	494	382
Columbia	*	1	1	
Cortland	Blodgett Mills		12	
	Cincinnatus		49	26
	Cortland	25	46	51
	Cuyler		12	
	East Freetown		12	
	Homer	82	118	83
	Little York	13	30	28
	McGraw		22	21
	Marathon	23	57	39
	Messengerville		17	12

* Having shipments of less than 10 cars.

TABLE 89 (*continued*)

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1920–21
Cortland (*continued*)	Mills	12	26	15
	North Harford	18	29	38
	Preble	24	23	23
	Truxton	17	33	22
	Other stations*	32	5	21
	Total for Cortland County	246	491	379
Delaware	Stamford	.....	22	17
	Other stations*	10	10	4
	Total for Delaware County	10	32	21
Dutchess	*	2	4	4
Erie	Alden	26	23	.....
	Chafee	.....	22	.....
	East Aurora	24	11	.....
	Jewettville	12	.....	.....
	Other stations*	60	31	15
	Total for Erie County	122	87	15
Essex	Bloomingdale	25	16	11
	Keeseville	11	.....	.....
	Port Kent	11	.....	.....
	Other stations*	13	21	9
	Total for Essex County	60	37	20
Franklin	Bangor	54	92	48
	Brushton	27	37	46
	Burke	65	126	57
	Chateaugay	199	335	191
	Constable	.....	10	.....
	Gabriels	38	24	26
	Malone	132	240	42
	Owls Head	.....	21	15
	Other stations*	19	20	60
	Total for Franklin County	534	905	485
Genesee	Alabama	45	26	33
	Alexander	10	.....	.....
	Batavia	141	116	69
	Bergen	42	12	13
	Byron	110	59	60
	Corfu	10	.....	.....
	Darien Center	51	34	11
	East Bethany	34	32	16
	East Pembroke	65	66	22
	Elba	105	46	48
	Le Roy	78	27	48

* Having shipments of less than 10 cars.

TABLE 89 (*continued*)

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1920–21
Genesee (*continued*)	North Le Roy	46	15	10
	Oakfield	54	47	24
	Pavilion	22	.....	.....
	South Byron	98	62	50
	Stafford	165	116	126
	Wheatville	23	.....	.....
	Other stations*	38	29	12
	Total for Genesee County	1,137	687	542
Herkimer	*	.....	8	1
Jefferson	*	.....	1	.....
Lewis	Lowville	.....	.....	12
	Other stations*	2	.....	8
	Total for Lewis County	2	0	20
Livingston	Avon	47	15	41
	Caledonia	30	.....	28
	Conesus	12	14	.....
	Dalton	41	64	35
	Dansville	145	167	142
	Fowlerville	18	.....	.....
	Hemlock	45	14	34
	Lakeville	20	.....	.....
	Lima	62	19	59
	Linwood	13	.....	14
	Livonia	40	25	37
	Livonia Station	25	.....	16
	Montear	20	39	22
	Nunda	25	12	.....
	South Lima	12	.....	14
	South Livonia	.....	.....	12
	Springwater	75	107	80
	Websters	53	80	25
	Other stations*	30	39	34
	Total for Livingston County	713	595	593
Madison	DeRuyter	23	48	28
	North Brookfield	.....	14	.....
	Sheds Corners	.....	.....	11
	Other stations*	16	58	27
	Total for Madison County	39	120	66
Monroe	Adams Basin	17	.....	.....
	Brighton	.....	21	.....
	Brockport	10	12	.....
	Chili	25	.....	13

* Having shipments of less than 10 cars.

TABLE 89 (*continued*)

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1920–21
Monroe (*continued*)	Churchville	64	25	18
	Fairport	66	14	60
	Henrietta	34	11	55
	Honeoye Falls	142	60	130
	Industry	17	.....	.....
	Mendon	101	60	108
	Mumford	43	17	23
	Pittsford	123	32	93
	Rochester	.....	42	.....
	Rochester Junction	44	23	39
	Rush	76	28	77
	Scottsville	66	15	18
	Spencerport	41	23	54
	Wadsworth	24	.....	10
	Waynesport	.....	25	44
	Webster	118	13	12
	West Henrietta	61	18	32
	West Rush	10	.....	14
	Other stations*	37	28	26
	Total for Monroe County	1,119	467	826
Nassau	*	6	9	7
Niagara	*	2	1	1
Oneida	Franklin Springs	.....	11	.....
	Paris	.....	11	.....
	Richfield Junction	.....	21	.....
	Waterville	.....	21	.....
	Other stations*	12	45	27
	Total for Oneida County	12	109	27
Onondaga	Apulia	10	27	11
	Baldwinsville	33	35	60
	Half Way	17	17	27
	Jamesville	.....	.....	10
	Jordan	17	28	29
	Kirkville	.....	.....	10
	Lamson	.....	17	19
	Marcellus	49	70	69
	Memphis	.....	10	25
	Onatavia	.....	14	21
	Skaneateles	45	54	43
	Skaneateles Junction	42	44	23
	Tully	52	99	114
	Other stations*	37	63	59
	Total for Onondaga County	302	478	520
Ontario	Aloquin	13	.....	13
	Canandaigua	29	12	17

* Having shipments of less than 10 cars.

TABLE 89 (*continued*)

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1920–21
Ontario (*continued*)	Clifton Springs	114	60	100
	Farmington	47	17	45
	Fishers	87	36	69
	Holcomb	131	65	127
	Ionia	36	38	67
	Manchester	10	.....	20
	Naples	182	219	210
	Oaks Corners	23	16	26
	Phelps	114	78	117
	Phelps Junction	94	27	85
	Seneca Castle	67	48	28
	Shortsville	15	.....	.....
	Victor	175	109	170
	West Bloomfield	25	.....	14
	Other stations*	34	47	39
	Total for Ontario County.	1,196	772	1,147
Orange	*	2	2	2
Orleans	Albion	12	12	12
	Eagle Harbor Station	.....	.....	13
	Knowlesville	46	45	40
	Other stations*	17	24	17
	Total for Orleans County.	75	81	82
Oswego	Fulton	20	.....	30
	Kasoag	.....	11	.....
	South Granby	24	24	33
	Other stations*	20	12	24
	Total for Oswego County.	64	47	87
Otsego	Cooperstown	.....	11	.....
	East Worcester	24	38	25
	Edmeston	.....	16	.....
	Fly Creek	.....	18	.....
	Milford	26	37	34
	Schenevus	27	63	52
	Worcester	32	63	43
	Other stations*	17	31	18
	Total for Otsego County.	126	277	172
Queens	*	.....	5	.....
Rensselaer	*	15	4	10
St. Lawrence	North Lawrence	.....	10	.....
	Other stations*	6	4	6
	Total for St. Lawrence County	6	14	6

* Having shipments of less than 10 cars.

TABLE 89 (*continued*)

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1920–21
Saratoga	*	1	3	1
Schenectady	*	1	0	0
Schoharie	*	1	7	6
Schuyler	Alpine	.....	15	.....
	Beaver Dams	49	79	78
	Burdett	26	34	38
	Odessa	27	37	31
	Watkins	27	33	23
	Other stations*	15	18	21
	Total for Schuyler County	144	216	191
Seneca	Junius	29	18	31
	Waterloo	.....	12	10
	Other stations*	6	11	12
	Total for Seneca County	35	41	53
Steuben	Addison	.....	24	17
	Arkport	186	224	201
	Atlanta	192	257	197
	Avoca	186	237	202
	Bath	48	90	65
	Cameron	16	24	16
	Cameron Mills	.....	15	.....
	Campbell	33	73	44
	Canisteo	40	54	129
	Cohocton	252	352	280
	Coopers	.....	19	14
	Corning	.....	15	.....
	Greenwood	67	55	49
	Hammondsport	32	37	34
	Hornell	83	202	146
	Kanona	48	87	58
	Portway	60	101	70
	Prattsburg	228	216	214
	Rexville	55	.....	.....
	Rogersville	144	217	165
	Savona	28	41	36
	Wallace	270	400	329
	Wayland	269	345	261
	Wayland Station	152	216	177
	Wheeler	85	101	88
	Other stations*	37	25	60
	Total for Steuben County	2,511	3,427	2,852
Suffolk	Amagansett	.....	.....	.....
	Aqueboque	283	243	389
	Bridgehampton	783	631	591

* Having shipments of less than 10 cars.

TABLE 89 (*continued*)

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1920–21
Suffolk (*continued*)	Calverton	520	408	385
	Cutchoque	551	316	411
	East Hampton	32	.....	10
	Greenlawn	.....	.....	10
	Greenport	76	111	372
	Jamesport	510	338	448
	Laurel	201	140	144
	Manorville	12	.....	10
	Mattituck	624	373	414
	Northport	10	16	23
	Peconic	251	274	278
	Port Jefferson	20	14	18
	Riverhead	1,041	749	868
	Southampton	370	260	241
	Southold	467	299	414
	Wading River	92	49	44
	Wainscott	263	155	158
	Water Mill	507	333	362
	By Mr. Stanton, L. I. R. R. (New London, Conn., for New York)	390	35	.....
		143	50	18
	Other stations*	39	37	33
	Total for Suffolk County	7,185	4,831	5,641
Sullivan	*	.....	2	.....
Tioga	Apalachin	.....	53	19
	Berkshire	.....	24	10
	Candor	12	44	31
	Flemingsville	.....	16	11
	Newark Valley	.....	39	13
	Nichols	50	90	58
	Owego	12	45	14
	Richford	19	53	35
	Spencer	.....	13	.....
	Tioga Center	.....	12	.....
	Other stations*	37	10	30
	Total for Tioga County	130	399	221
Tompkins	Besemer	.....	28	21
	Dryden	61	128	69
	Etna	.....	10	.....
	Freeville	.....	13	12
	Groton	.....	15	11
	McLean	29	44	34
	South Lansing	.....	.....	10
	Trumansburg	14	24	24
	Other stations*	47	16	22
	Total for Tompkins County	151	278	203

* Having shipments of less than 10 cars.

TABLE 89 (*continued*)

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1920–21
Ulster	*	.....	.....	1
Warren	*	.....	.....	1
Washington	Cambridge	15	.....	18
	Fort Edward	.....	.....	10
	Granville	.....	.....	12
	Greenwich	45	45	35
	Salem	30	45	56
	Shushan	.....	.....	13
	Other stations*	12	31	18
	Total for Washington County	102	121	162
Wayne	Lyons	97	45	79
	Macedon	21	.....	19
	Marion	21	12	29
	Newark	38	43	72
	North Macedon	10	.....	.....
	North Newark	10	.....	21
	Palmyra	17	12	28
	Port Gibson	40	17	32
	Savannah	17	20	22
	Sodus Center	.....	.....	14
	Walworth	14	.....	20
	Wayneport	35	.....	.....
	Other stations*	47	62	56
	Total for Wayne County	367	211	392
Westchester	*	.....	1	.....
Wyoming	Arcade	17	36	.....
	Attica	52	20	.....
	Bliss	116	210	63
	Castile	32	20	36
	Curriers	23	32	12
	Eagle	11	20	.....
	Gainesville	228	216	116
	Hardys	160	206	84
	Java Center	64	81	47
	Johnsonburg	10	12	0
	North Java	51	116	33
	Portageville	19	38	.....
	Rock Glen	74	99	54
	Silver Springs	.....	15	14
	Varysburg	16	16	12
	Warsaw	78	62	27
	Other stations*	19	61	52
	Total for Wyoming County	970	1,260	550
Yates	Bellona	17	12	13
	Benton	.....	15	31

* Having shipments of less than 10 cars.

TABLE 89 (*concluded*)

County	Station	Number of carloads		
		In 1922–23	In 1921–22	In 1920–21
Yates (*continued*)	Branchport	16	10	17
	Dundee	.....	.....	10
	Middlesex	27	23	32
	Penn Yan	.....	.....	17
	Other stations*	18	18	18
	Total for Yates County	78	78	138
	Total for State	19,345	18,965	17,279

* Having shipments of less than 10 cars.

METHOD OF CALCULATING TOTAL COSTS OF LOADING ON THE JOINT-ACCOUNT BASIS

The arrangements between many-station dealers and joint-account loaders were not uniform. Minor adjustments had to be made in practically every case. The following example, however, illustrates the general method used in determining the cost to society of loading on the joint-account basis.

For the many-station dealer designated as *A*, the average rate paid for loading on the commission basis was 6.63 cents per bushel. Men who loaded for many-station dealers on the commission basis incurred expenses of approximately 3.01 cents per bushel, which they had to pay out of their commission of 6.63 cents per bushel. The joint-account loader usually had the option of loading on the commission or on the joint-account basis; so it was assumed that the services of the joint-account loader were worth approximatley 6.5 cents per bushel. The total loading expenses per carload at the shipping point incurred by commission and by joint-account loaders were approximately equal. Dealer A's agreements with his joint-account loaders were that they would pay one-half of all costs and get one-half of all profits on the cars so loaded, but the profits were calculated after all costs had been deducted. This was equivalent to saying that although the joint-account loader was charged with only one-half of the costs, the profits in which he shared were calculated after full costs were deducted. To determine the pay for the joint-account loader, the share of the costs of the joint-account loader and the many-station dealer would first have to be deducted from the average commission of 6.63 cents per bushel. For the many-station dealer this 6.63 cents per bushel would have to cover: *a*, the share of the expenses of the joint-account loader which was paid by the many-station dealer; (this would not have been paid for commission loaders); *b*, the share of the expenses of the joint-account loader which was paid by himself; *c*, the joint-account loader's own labor.

The accounting records of the many-station dealer showed the total cost which he paid. Thus, for dealer A, the cost on his books was $5838.22; then, $a + b$ = $11,676.44, or the cost of loading potatoes at the shipping point not including *c*, the cost of the joint-account man's own labor. Approximately 510 carloads, or 306,000 bushels, were loaded for dealer A on the joint-account basis; then $11,676.44 ÷ 306,000 = $0.0382, or 3.82 cents, which was the total cost per bushel of loading on the joint-account basis, not including *c*, the cost of the joint-account man's own labor.

The joint-account man could have received 6.63 cents per bushel if he had loaded on the commission basis instead. The expenses on the joint-account basis, as shown in the preceding paragraph, were 3.82 cents per bushel; then 6.63 cents − 3.82 cents = 2.81 cents, which was the value of the joint-account man's labor per bushel; and 2.81 cents × 306,000 (number of bushels) = $8598.60, the cost for dealer A of the labor of the joint-account loaders. This amount added to $11,676.44 (the sum of *a* and *b* at the station of the joint-account loader) would equal $20,275.04, the total cost for dealer A of loading potatoes on the joint-account basis.

TIME ESTIMATES

The time consumed in the various processes through which potatoes were put at the country shipping points was estimated by 52 loaders for both seasons. The variations in their estimates and the average of all are given in table 90. The estimates given by each shipper were used in calculating the allocations of time for each individual record, but the process costs were determined only as an average of the total.

TABLE 90. ESTIMATE OF HOURS OF LABOR REQUIRED IN VARIOUS PROCESSES FOR HANDLING A 600-BUSHEL CARLOAD OF POTATOES, 52 LOADERS, SEASONS 1921–22 AND 1922–23

Loader's no.	Process						
	Grading and sacking	Storing	Preparing car	Loading car	Sorting and binning	Grading and loading, bulk	Heating car
1	40	40	1	6	.....	.....	.....
2	40	.....	1	6	.....	.....	.....
3	.....	.....	1	6	40	.....	.....
4	40	40	1	6	.....	.....	.....
5	60	20	4	18	.....	20	3
6	40	40	1	6	.....	.....	.....
7	45	.....	6	8	15	.....	5
8	45	.....	4	6	65	20	1
9	44	.....	2	6	.....	40	2
10	30	.....	10	6	.....	40	1
11	60	50	3.5	6	.....	50	2
12	40	.....	6	6	30	30	2
13	20	.....	4	4	40	.....	5
14	60	.....	29	6	.....	.....	3
15	30	.....	1	6	30	30	1
16	20	.....	5	6	20	.....	0.5
17	43	.....	2	6	30	34	1
18	43	.....	2	6	30	34	1
19	48	.....	2	6	36	.....	2
20	43	.....	2.5	6	30	34	2
21	43	.....	2.5	6	30	34	2
22	40	.....	1	4	20	30	0.5
23	60	.....	2	10	60	60	3
24	43	.....	1	6	.....	30	.....
25	43	43	1	6	.....	30	.....
26	43	.....	2	6	.....	30	.....
27	32	.....	0.5	6	32	.....	0.5
28	30	.....	1	6	.....	.....	1
29	40	.....	10	6	30	30	1
30	24	.....	1	10	16	.....	1
31	32	.....	2	10	.....	.....	.....
32	30	.....	1.5	6	20	20	1.5
33	43	.....	2.5	6	30	34	1
34	.....	.....	3	.....	20	40	1
35	43	.....	2	6	.....	30	2
36	24	.....	5	6	24	24	1
37	45	.....	1	6	30	30	0.5
38	75	.....	5	6	35	35	3
39	54	.....	4	6	24	30	1
40	24	.....	2	6	12	24	2
41	60	.....	1	6	.....	.....	2
42	36	.....	2	6	30	30	5
43	45	.....	4	6	36	30	2

TABLE 90 (*concluded*)

Loader's no.	Process						
	Grading and sacking	Storing	Preparing car	Loading car	Sorting and binning	Grading and loading, bulk	Heating car
44	30	.....	2	6	30	30	2
45	30	.....	3	6	30	30	1
46	54	.....	3	6	54	36	2
47	36	.....	1	6	.....	27	1
48	45	.....	3	6	30	60	5
49	30	.....	0.75	6	24	.....	1
50	36	.....	2	6	27	27	2
51	45	.....	.....	6	.....	60	.....
52	48	.....	2	6	30	30	1
Average..	41	38.8	3.1	6.3	30.9	33.4	1.8

ACTUAL PRICES RECEIVED

In tables 91 and 92 are given the actual prices paid to growers and the prices received by dealers and shipping associations during the seasons 1921–22 and 1922–23, respectively.

TABLE 91. COMPARISON OF AVERAGE WEEKLY PRICES AT COUNTRY SHIPPING POINTS, 24 SHIPPING AGENCIES, SEASON 1921–22

Date, week ending	Price per bushel paid to growers				Net wholesale price realized			
	Cooperatives	Single-station dealers	Many-station dealers	Average for all agencies	Cooperatives	Single-station dealers	Many-station dealers	Average for all agencies
Sept. 3	.....	.....	$1.33	$1.33	.....	.....	$1.67	$1.67
Sept. 10	$1.36	.....	1.05	1.08	$1.57	.....	1.38	1.40
Sept. 17	1.48	$1.08	1.04	1.09	1.73	$1.15	1.31	1.35
Sept. 24	1.03	0.86	1.02	1.01	1.20	1.03	1.21	1.19
Oct. 1	0.92	0.79	0.99	0.96	1.09	0.92	1.09	1.07
Oct. 8	0.95	0.76	0.92	0.91	1.13	0.87	1.10	1.08
Oct. 15	0.97	0.86	1.01	0.99	1.15	0.98	1.17	1.15
Oct. 22	0.93	0.89	0.98	0.97	1.12	1.01	1.12	1.11
Oct. 29	0.94	0.92	1.01	0.99	1.10	0.99	1.11	1.10
Nov. 5	0.92	0.90	0.96	0.94	1.07	0.97	1.09	1.07
Nov. 12	0.92	0.92	0.96	0.96	1.04	0.97	1.07	1.06
Nov. 19	0.92	0.86	0.95	0.94	1.03	0.99	1.05	1.04
Nov. 26	0.88	0.87	0.93	0.92	1.05	1.01	1.04	1.03
Dec. 3	0.87	0.81	0.91	0.89	0.96	0.91	1.03	1.00
Dec. 10	0.86	0.85	0.89	0.89	1.02	0.95	1.02	1.02
Dec. 17	0.89	0.84	0.90	0.90	1.04	0.99	1.03	1.02
Dec. 24	0.98	0.84	0.86	0.88	1.02	0.97	1.00	1.00
Dec. 31	0.82	0.83	0.90	0.88	0.96	1.07	1.06	1.05
Jan. 7	1.01	0.99	1.02	1.01	1.21	1.13	1.23	1.22
Jan. 14	0.92	1.00	1.01	1.00	1.12	1.17	1.16	1.16
Jan. 21	1.01	1.04	1.02	1.02	1.14	1.24	1.20	1.19
Jan. 28	0.95	1.00	1.03	1.01	1.07	1.16	1.19	1.17
Feb. 4	1.01	1.00	1.03	1.03	1.19	1.10	1.23	1.21
Feb. 11	1.00	1.00	1.03	1.02	1.17	1.08	1.16	1.16
Feb. 18	0.98	0.98	1.03	1.02	1.08	1.20	1.15	1.15
Feb. 25	0.94	0.93	1.00	0.98	1.10	1.08	1.12	1.11
Mar. 4	0.92	0.91	1.00	0.98	1.12	1.05	1.13	1.12
Mar. 11	0.98	0.93	1.00	0.99	1.16	1.05	1.12	1.12
Mar. 18	0.96	0.87	0.98	0.97	1.15	1.01	1.09	1.09
Mar. 25	0.99	0.90	0.95	0.95	1.19	1.03	1.11	1.11
April 1	0.92	0.64	0.94	0.89	1.11	0.96	1.07	1.06

TABLE 91 (*concluded*)

Date, week ending	Net wholesale price realized				Price per bushel paid to growers			
	Cooperatives	Single-station dealers	Many-station dealers	Average for all agencies	Cooperatives	Single-station dealers	Many-station dealers	Average for all agencies
April 8	0.93	0.77	0.92	0.91	1.10	0.83	1.05	1.04
April 15	0.84	0.93	0.88	0.87	1.03	1.08	0.97	0.99
April 22	0.69	0.70	0.81	0.77	0.84	0.71	0.87	0.85
April 29	0.66	0.57	0.70	0.69	0.82	0.66	0.87	0.85
May 6	0.74	0.61	0.71	0.71	0.86	0.71	0.97	0.94
May 13	0.73	0.74	0.79	0.77	0.86	0.83	0.94	0.92
May 20	0.65	0.60	0.75	0.72	0.80	0.70	0.80	0.80
May 27	0.73	0.60	0.65	0.66	0.83	1.58	0.84	0.86
June 3	0.63	0.60	0.65	0.64	0.76	1.87	0.79	0.82
June 10	0.67	.....	0.57	0.59	0.84	.....	0.79	0.80
June 17	0.72	.....	0.61	0.66	0.88	.....	1.06	0.98
June 24	.....	.....	0.63	0.63	.....	.....	0.83	0.83

TABLE 92. COMPARISON OF AVERAGE WEEKLY PRICES AT COUNTRY SHIPPING POINTS, 34 SHIPPING AGENCIES, SEASON 1922–23

Date, week ending	Price per bushel paid to growers				Net wholesale price realized			
	Cooperatives	Single-station dealers	Many-station dealers	Average for all agencies	Cooperatives	Single-station dealers	Many-station dealers	Average for all agencies
Sept. 2	.....	.....	$0.50	$0.50	.....	.....	$0.68	$0.68
Sept. 9	.....	.....	0.50	0.50	.....	.....	0.61	0.61
Sept. 16	$0.45	.....	.....	0.45	$0.45	.....	.....	0.45
Sept. 23	0.45	.....	0.50	0.47	0.45	.....	0.61	0.50
Sept. 30	0.47	.....	0.45	0.46	0.63	.....	0.66	0.63
Oct. 7	0.41	$0.37	0.42	0.41	0.56	$0.53	0.56	0.56
Oct. 14	0.37	0.38	0.39	0.38	0.53	0.48	0.55	0.54
Oct. 21	0.40	0.41	0.41	0.41	0.57	0.53	0.59	0.56
Oct. 28	0.44	0.42	0.44	0.44	0.62	0.58	0.61	0.61
Nov. 4	0.47	0.49	0.47	0.47	0.62	0.59	0.62	0.61
Nov. 11	0.45	0.50	0.48	0.48	0.59	0.60	0.60	0.60
Nov. 18	0.45	0.48	0.48	0.48	0.61	0.58	0.59	0.59
Nov. 25	0.44	0.47	0.47	0.46	0.59	0.62	0.57	0.57
Dec. 2	0.41	0.50	0.45	0.45	0.57	0.62	0.57	0.57
Dec. 9	0.41	0.43	0.44	0.43	0.57	0.55	0.57	0.57
Dec. 16	0.43	0.44	0.44	0.44	0.61	0.58	0.59	0.59
Dec. 23	0.47	0.46	0.45	0.46	0.64	0.60	0.62	0.62
Dec. 30	0.47	0.45	0.46	0.46	0.64	0.63	0.62	0.63
Jan. 6	0.47	0.46	0.47	0.47	0.63	0.65	0.61	0.61
Jan. 13	0.46	0.43	0.46	0.46	0.61	0.58	0.61	0.61
Jan. 20	0.47	0.43	0.46	0.46	0.63	0.60	0.62	0.62
Jan. 27	0.48	0.44	0.48	0.47	0.65	0.63	0.64	0.64
Feb. 3	0.49	0.46	0.48	0.48	0.66	0.63	0.63	0.63
Feb. 10	0.46	0.45	0.48	0.48	0.64	0.64	0.61	0.62
Feb. 17	0.43	0.45	0.47	0.46	0.60	0.64	0.61	0.61
Feb. 24	0.46	0.43	0.47	0.47	0.65	0.62	0.65	0.65
Mar. 3	0.53	0.44	0.49	0.49	0.77	0.71	0.73	0.73
Mar. 10	0.61	0.48	0.50	0.52	0.81	0.77	0.79	0.79
Mar. 17	0.62	0.55	0.56	0.57	0.83	0.80	0.82	0.82
Mar. 24	0.67	0.63	0.64	0.64	0.88	0.92	0.90	0.90
Mar. 31	0.79	0.80	0.71	0.74	1.01	0.95	0.94	0.95
April 7	0.83	0.79	0.78	0.79	1.03	1.03	0.98	1.00
April 14	0.94	0.88	0.85	0.87	1.16	1.21	1.11	1.14
April 21	1.01	0.99	0.94	0.96	1.16	1.19	1.12	1.14
April 28	1.00	0.96	0.98	0.98	1.02	1.18	0.99	1.03
May 5	0.81	0.80	0.95	0.90	0.98	1.17	1.00	1.05
May 12	0.83	0.85	0.91	0.89	1.03	1.19	0.92	0.97
May 19	0.75	0.82	0.94	0.91	0.92	1.14	0.89	0.93
May 26	0.70	0.80	0.88	0.84	0.90	1.10	0.84	0.89
June 2	0.65	0.90	0.92	0.87	0.83	1.10	0.73	0.77
June 9	0.62	0.83	0.93	0.78	0.76	1.08	0.70	0.85
June 16	0.70	0.62	0.70	0.66	0.91	0.79	0.92	0.85
June 23	0.57	0.62	0.48	0.57	0.76	0.87	0.63	0.79
June 30	.....	.....	1.02	1.02	.....	.....	1.02	1.02
July 7	.....	0.67	.....	0.67	.....	0.86	.....	0.86

WORKING SCHEDULES

It was found impracticable to use any particular form in the field work, as the detailed information had to be gathered in a variety of ways. When the cost data had been summarized, they were transferred to a work schedule form, shown on the following pages, and the costs were allocated according to the directions given in succeeding paragraphs.

EXPLANATION OF GROUP ITEMS OF COSTS AND RETURNS

Labor and management.— Costs for labor and management include all costs for hired labor, employer's liability insurance paid for such labor, an estimate of the value of the share of the manager's time as an actual laborer, and an estimate of the value of officers' and manager's time in managing labor.

Warehouse costs.— Warehouse costs include depreciation, interest, repairs, taxes, and fire insurance on owned buildings or the rent paid for the use of buildings not owned. Where the ground site of the warehouse was owned by a railroad, the annual rental was included in warehouse costs.

Equipment costs.— The costs for equipment include depreciation, interest, repairs, and fire insurance on potato-handling equipment owned or the rent paid for equipment leased.

General office costs.— General office expenses include the following items: fuel and light for office use; salaries of clerical help; general office supplies; rent of office where the office building was leased; advertising and publicity; market news service; interest on borrowed operating capital; interest on owned operating capital; interest, depreciation, repairs, and insurance on office furniture and fixtures; and an estimate of the value of the manager's or the officers' time as office or sales manager.

Telephone and telegraph.—All expenses incurred in the use of the telephone and the telegraph are included in the group costs for telephone and telegraph.

Bank exchange.—A few of the shipping agencies had no charge for bank exchange. This charge was made by banks for the forwarding and collecting of drafts. On the average, the charge was approximately 0.25 per cent of the face value of the draft.

Brokerage and commissions.— The costs for brokerage and commissions included the following: brokerage fees; charges made by commission merchants for carloads sold on the commission basis; and the pay of joint-account sales agents for selling carloads in terminal markets on the joint-account basis.

Linings.— The expenses for linings include the cost of building paper, straw, and lumber used for lining cars to protect the potatoes against damage.

Sacks, tags, and twine.— Costs for sacks, for twine used in sewing sacks, and for tags attached to sacks, are included under sacks, tags, and twine.

Miscellaneous costs.— The miscellaneous costs are for fuel for heating warehouse and cars; light and power used in handling potatoes; insurance on stock; traveling expenses; bad debts; inspection fees; freight, express, and drayage on supplies; demurrage; miscellaneous supplies; and miscellaneous operating expenses.

DETAILED INSTRUCTIONS FOR WORKING SCHEDULE

Primary Costs

Primary costs nos. 1 to 14, and 17 to 30, inclusive, and also 31 and 33, may be obtained from the accounts of the business. Items nos. 15, 16, and 32 may be obtained from the accounts, or they may have to be computed as shown in the following paragraphs. Item no. 30a also must be computed.

Item no. 15.— To determine the depreciation on a warehouse it is necessary to ascertain the probable life of the building, its cost, and its probable junk value. The difference between the cost and the junk value, divided by the probable life, is the amount which must be charged to depreciation. The usual rate on frame buildings is from 5 to 10 per cent a year.

Item no. 16.— The depreciation on equipment is computed in the same manner as that on a warehouse. The usual rate of depreciation on equipment is from 10 to 20 per cent a year.

Item no. 17.— Officers' salaries include special per-diem payments or traveling expenses paid to officers. Special attention should be given to proprietors' or stockholders'

salaries, and the report should state whether these amounts appear to be fair compensation for services performed.

Item no. 30.— The interest on net worth is ascertained by computing the interest at the rate applicable for the period on accounting capital and surplus. The rate applied is then inserted in the blank.

Item no. 32.— The depreciation on furniture and fixtures is computed as shown for item no. 15. The usual rate of this depreciation is from 5 to 10 per cent a year.

Distribution of Primary Costs to Classification

The following items should ordinarily be allocated to *Distribution to Classification* in the manner indicated:

1. *Labor*, carry to Direct Labor Cost.
2. *Sacks, Tags, and Twine*, carry to Other Direct Cost.
3. *Rent – Warehouse*, carry to Building Cost.
4. *Taxes – Warehouse*, carry to Building Cost.
5. *Personal Property Tax*, carry to Other Direct Cost or to General Office Cost, according to its application.
6. *Insurance – Warehouse*, carry to Building Cost. (Insurance on merchandise should be carried to Other Direct Cost.)
7. *Insurance – Employer's Liability*, divide between Direct Labor Cost and General Office Cost.
8. *Fuel*, divide according to its use. If cars are heated, portions of this charge should be carried to General Office Cost and to Other Direct Cost.
9. *Light*, carry to Light, Power, and Equipment Cost and to General Office Cost, in proportion to its use.
10. *Power*, carry to Light, Power, and Equipment Cost.
11. *Linings*, carry to Other Direct Cost.
12. *Repairs*, carry to Building Cost.
13. *Supplies*, divide between Building Cost and Light, Power, and Equipment Cost.
14. *Miscellaneous Operating Expenses*, carry to Other Direct Cost.
15. *Depreciation – Warehouse*, carry to Building Cost.
16. *Depreciation – Equipment*, carry to Light, Power, and Equipment Cost.
17. *Officers' Salaries*, carry to Management Cost unless labor is performed also. In this case divide between Direct Labor Cost and Management Cost, in proportion to the application.
18. *Manager's Salary*, divide between Direct Labor Cost, Management Cost, and General Office Cost, in proportion to the amount of time given to each.
19. *Office Salaries*, carry to General Office Cost.
20. *Traveling Expense*, if for messengering, carry to Other Direct Cost. Sometimes this should be distributed to Buying and Selling Process Costs.
21 to 26. *Printing and Stationery, Postage, Office Supplies, Telephone (and Telegraph), Licenses and Fees, Office Rent*, carry to General Office Cost.
27. *Brokerage and Commissions*, carry to Other Direct Cost.
28 to 32, except 30a. *Advertising and Publicity, Market Service, Interest on Borrowed Money (used for working capital), Miscellaneous Office Expense*, and *Depreciation on Furniture and Fixtures*, carry to General Office Cost.
30a. *Interest on Net Worth*, divide between Building Cost, Light, Power, and Equipment Cost, and General Office Cost, in proportion to the investment in each. Borrowed money may be for working capital, or it may be for paying for buildings and equipment.
33. *Bad Debts*, carry to Other Direct Cost.

Method of allocating Classification to Distribution to Enterprise, and to Distribution of Potato Costs to Process and Other Factors

Direct Labor Cost.— Allocate direct labor cost to the various branches of the business so as to determine the costs for labor used in handling potatoes; allocate this labor to the Process Costs listed. Both allocations should be made on the basis of the actual amount of labor used. The amount of labor used in each branch and in each process

of the potato business should be made through actual work records, as the daily time sheet shown here; or by "trial runs," using this same sheet; or by means of the labor distribution schedule, obtaining the data by the survey method. The Process Costs are: Buying and selling; receiving and weighing; grading and sacking; storage; sorting and temporary storage; preparing car; loading car, sacked; grading and loading, bulk; messengering.

DAILY TIME SHEET

Name of company . . . . . Shipping point . . . . . .

Manager . . . . . Date . . . . . .

Distribution of work done

Name of worker	Potatoes									Other work			
	Buying and selling	Weighing and receiving	Grading and sacking	Loading car, sacked	Preparing car	Storage	Sorting and temporary storage	Grading and loading, bulk	Messengering	Cabbage	Feed	Coal	

Building Cost.— Allocate the building cost to the various branches of the business on the basis of the value of the space used by each branch and its relative importance in the business. On the same basis, distribute the building cost charged to potatoes to the various process costs.

Light, Power, and Equipment Cost.— Allocate light, power, and equipment cost to the various branches of the business and to the Process Costs, on the basis of the value of the light, power, and equipment used for each.

General Office Cost.— Allocate general office costs to the various branches of the business, on the basis of the office requirements of each department and its relative importance in the business. The general office expense allocated to potatoes should be charged to Buying and Selling Process Costs.

Management Cost.— Allocate management cost to the various branches of the business and to the Process Costs, on the basis of the direct labor charged to each and its relative importance in the business.

Allocate the amount of management charged to the potato business to the various items under Process Costs on the basis of the direct labor charged to each.

Other Direct Cost.— Allocate other direct cost to the various branches of the business, in proportion as they apply as follows:

2. *Sacks, Tags, and Twine*, carry to Sacks, Tags, and Twine.

5. *Personal Property Tax*, carry to Storage.

11. *Linings*, carry to Preparing Car.

20. *Traveling Expense*, divide between Buying, Messengering, and Selling, in proportion to use.

27. *Brokerage and Commissions*,[19] carry to Brokerage and Commissions. Separate the buying and the selling commission if possible.

33. *Bad Debts*, carry to Bad Debts.

Storage. Storage costs are intended to cover only potatoes that are actually stored, and the costs incident to storing.

Sorting. – Costs for the reconditioning of potatoes stored temporarily should be included under *Sorting.*

Labor Distribution

On the first line, enter the amount paid for labor, as shown on the Working Schedule.

On the second line, enter the percentages of time used by labor in potato operations.

On the fourth line, enter the average cost per man hour paid for labor in potato operations.

On the fifth line, enter the number and the kinds of units — pounds, sacks, barrels, of potatoes purchased.

On the sixth line, enter the number and the kinds of units of potatoes sold.

Number of Men.— In the first column enter the average number of men engaged in each of the several processes.

Number of Units.— In the second column enter opposite each item the number, only, of units in the process.

Kind of Units.— In the third column enter the kind of unit used.

Rate of Work.— In the fourth column enter the average number of units handled by one man in an hour.

Total Man Hours.— In the last column enter the number of man hours, ascertained by dividing the number of units by the rate of work.

Cost of Potatoes Sold

Opposite *Purchases (Paid to Growers, Cooperatives)*, enter the total amount paid for potatoes; or, in a cooperative enterprise, the total amount paid to the growers for the potatoes sold. To this amount add the value of any inventory of potatoes on hand at the beginning of the period being studied. From the total of these two items deduct the value of any inventory of potatoes on hand at the end of the period. To this remainder add any buying commission paid by the enterprise during the period. The resulting total is the cost of potatoes sold, and should be carried to the working schedule as item 58. If a buying commission is shown here, it should not be included in either item 27 or item 54 on the Working Schedule, and a note to this effect should be entered on line 54 opposite *Buying.*

Analysis of Branch House Expense Paid by Home Office

Where the business being studied is a branch of a larger organization, care should be taken to ascertain whether any of the costs applicable to the branch are borne by the home office. If so, any such costs should be entered in this schedule. Amounts borne by the home office must be included in the Primary Costs shown on the Working Schedule.

Home Office Overhead

Where the operation being studied is a branch operation, the total overhead expense of the home office must be ascertained and entered on this schedule. On the line *Pro-Rata Share to this Branch*, enter the share of the total of the preceding items that should be rightfully borne by the branch. This amount should be transferred to line 38 of the Working Schedule, and distributed to General Office Cost and Management Cost, and to Buying and Selling Process Costs. A study of this schedule will assist in the proper allocation on the Working Schedule.

[19] This item is so carried in order to maintain its integrity. In the accounts it should be distributed to Buying and Selling, in proportion to its application.

General Survey of Local Marketing Organization

The general survey schedule is, for the most part, self-explanatory. The following items may need additional explanation.

Type of Company should indicate whether it is a firm, a corporation, a cooperative, or a branch of a larger organization, and should give some information as regards the parent company.

Methods of Selling Potatoes should show whether the potatoes are sold through brokers, through commission companies, or direct to the wholesaler or the jobber, and the percentages sold through the several channels should be indicated. This item should state also whether the potatoes were sold in bulk or in containers, the kind and size of the containers, and the percentage sold each way.

Analysis of Bad Debts should specify such debts as occurred during the period being studied, arising from the several sources shown on the schedule. Under *Amount Arising from Sales*, enter only those amounts which resulted from nonpayment or from partial nonpayment for potatoes sold. Under *Amount Uncollectable from Joint-Account Operations*, enter only such amounts as represent advances to joint-account operators or the proportions of trading losses which are uncollectable. Under *Amount Uncollectable from R. R. Claims and Other Claims*, enter such amounts as represent claims for losses of potatoes, of linings, and so forth, that occurred in transit.

Branch Manager's Salary — Commission or Profit

It will sometimes be found that managers of branch organizations receive a salary or a commission, or may share in the trading profits, out of which compensation they, the branch managers, pay certain of the operating expenses. On the first line in this schedule, enter the balance netted by the manager after he has paid such expenses. On the second line, enter the amount of the salary which you estimate to be a fair compensation for services rendered by the manager and for his abilities in potato marketing, if all expense of the operation had been paid by the home office.

The costs entered on this schedule must be transferred to and included in similar costs on the Working Schedule.

It frequently happens in organizations of this kind that the manager furnishes the warehouse and the equipment. A section is therefore provided in this schedule for these data.

Monthly Balances — Accounts and Notes Payable

In the schedule of monthly balances, enter opposite the month the balances shown in accounts and notes as they appear on the last day of each month. Enter the balance for only the months covered by the study.

Analysis of Deductions for Losses

Enter in this schedule the losses suffered by way of allowances or due to the resale of rejected cars. The certificate of inspection on which all such allowances were claimed or on which rejections were made, should be examined and the cause ascertained. The amount of loss or the allowance made, should be entered opposite the kind of car used and in the column designating the cause of the loss.

Whenever possible, copies of the balance sheets prepared by the company should be obtained, one dated to correspond with the beginning and one with the termination of the period studied. Enclose these sheets with your report. Enter the percentage of each item that should be allocated to potato operation. Care must be used in determining these allocations, and every source of information should be studied in order to make them as nearly accurate as possible.

Where no balance sheets have been prepared by the company, the items should be compiled from the accounts, if possible, or an inventory should be made of the assets, together with their cost and the dates of purchase. The amount of liabilities should also be ascertained.

WORKING SCHEDULE

Report by Cooperative — Country Buyer - Wholesaler — Jobber or Commission Dealer

Name of Company .....

	Item	Primary Costs: Per cent to potatoes	Primary Costs: Total amount	Distribution to Classification: Direct labor cost	Building cost	Light, power, and equipment cost	General office cost	Management cost	Other direct cost	Explanatory
1	Labor									
2	Sacks, Tags, and Twine (Net)									
3	Rent — Warehouse									
4	Taxes — Warehouse									
5	Personal Property Tax									
6	Insurance — Warehouse									
7	Insurance — Employer's Liability									
8	Fuel									
9	Light									
10	Power									
11	Linings (Net)									
12	Repairs									
13	Supplies									
14	Miscellaneous Operating Expenses									
15	Depreciation — Warehouse									
16	Depreciation — Equipment									
17	Officers' Salaries									
18	Manager's Salary									
19	Office Salaries									
20	Traveling Expense									
21	Printing and Stationery									
22	Postage									
23	Office Supplies									
24	Telephone									
25	Licenses and Fees									
26	Office Rent									
27	Brokerage and Commissions									
28	Advertising and Publicity*									
29	Market Service									
30	Interest on Borrowed Money									
30a	Interest on Net Worth @ ....%									
31	Miscellaneous Office Expense									
32	Depreciation, Furniture and Fixtures									
33	Bad Debts									
34										
35										
36										
37										
38	Home Office Overhead (Pro-Rata Share)									
	Total									

* Advertising and publicity should include donations.

	Item	Distribution to Enterprise	Total units handled	Unit per cwt.	
39	Feed				
40	Other Produce				
41	Potatoes				
	Total				

	Item	Distribution of Potato Costs to Process and Other Factors	Units in Process		Cost per unit loaded
			Lbs., sacks, or bbls.	Cars	
42	Buying and Selling				
43	Receiving and Weighing				
44	Grading and Sacking				
45	Storage				
46	Sorting and temporary Storage				
47	Sacks, Tags, and Twine				
48	Preparing Car				
49	Loading Car, Sacked				
50	Messengering				
51	Other Transportation (Not including freight				
52	Grading and Loading, Bulk				
53	Inspection				
54	Brokerage and Commissions { Buying / Selling				
55	Bad Debts				
56	Other Costs				
57	Total				

	Item	Other Accounting Factors
57	Total Costs Potatoes	
58	Plus Cost of Potatoes Sold	
59	Total	
60	Sales	
61	Less Returned Sales	
62	Less Allowances Deducted for Loss	
63	Less Freight	
64	Net Sales	
65	Net Profits	

Labor Distribution

Total cost of labor for year ..... $

Per cent of total labor cost used on potatoes ..... %

Estimated weighted average cost per hour of labor on potatoes ..... $

Number of units of potatoes bought .....

Number of units of potatoes sold .....

	No. of men	No. of units	Kind of units	Rate of work	Total man hrs.
Weighing and receiving					
Grading and Sacking					
Loading Car					
Preparing Car					
Storage					
Sorting					
Buying					
Selling					
Messengering					
Total man hrs					

Equipment Data

Item	Cost value	Market value
Scales		
Dumping Equip't		
Elevator Equip't		
Grading Equip't.		
Power Equip't		
Other Equip't		
Remarks:		

Cost of Potatoes Sold

Purchases (Paid to Growers, Cooperatives) .....

plus, Inventory Beginning .....

less, Inventory Ending .....

plus, Buying Commission .....

Cost of Potatoes Sold .....

Analysis of Branch House Expense Paid by Home Office

1	Labor			
2	Sacks, Tags, and Twine			
3	Rent–Warehouse			
4	Taxes			
5	Personal Property Tax			
6	Insurance–Warehouse			
7	Insurance–Employer's Liability			
8	Fuel			
9	Light			
10	Power			
11	Linings			
12	Repairs			
13	Supplies			
14	Miscellaneous, Operating Expense			
15	Depreciation–Warehouse			
16	Depreciation–Equipment			
19	Branch Office Salaries			
23	Branch Office Supplies			
26	Office Rent			
31	Miscellaneous–Branch Office Expense			
32	Depreciation, Furniture and Fixtures, Branch Office			

Home Office Overhead

Officers' Salaries	
Manager's Salary	
Office Salaries	
Traveling Expense	
Printing and Stationery	
Postage	
Office Supplies	
Telephone and Telegraph	
Licenses and Fees	
Office Rent	
Brokerage and Commissions	
Advertising and Publicity (including Donations)	
Market Service	
Interest on Borrowed Money	
Interest on Net Worth	
Miscellaneous Office Expense	
Depreciation, Furniture and Fixtures	
Bad Debts	
Total	

* Pro-rata share to this branch .....

* Transfer to Working Schedule, Item 38

General Survey of Local Marketing Organization

Type of Company.....

Location of Shipping Point..... R.R.....

Central Office.....

Principal Kinds of Business.....

Importance of Potato Business in General Business.....

When was Company Organized.....

Volume of Business Last Year $..... No. of Units.....

.....

Warehouse

Size..... Construction.....

Stories..... Winter Storage Space for Potatoes.....

Proportion of Space used by Potatoes.....

Market Value of Warehouse.....

Replacement Cost of Warehouse.....

Cost of Warehouse.....

Amount of Insurance Policies on Warehouse.....

Amount of Land Used..... Rented or Owned.....

Location of R. R. Switch.....

Amount of Switching Space.....

Number of Loading Doors in Warehouse.....

Total Value of Real Estate Owned or Rented.....

Explain Depreciation Allowed on Working Schedule.....

Other Assets

Channels Through which Product is Usually Sold

Methods of selling potatoes.....

Per cent through each method.....

Advantages of the various methods.....

.....

.....

Analysis of Bad Debts

Amount arising from Sales.....

Amount uncollectable from Joint-Account Operations.....

Amount uncollectable from R.R. Claims and Other Claims.....

Remarks.....

Branch Manager's Salary–Commission or Profit

Balance over expense paid by him.....

Estimated value of his services had Home Office paid all expense and provided the Warehouse and Equipment.....

Monthly Balances–Accounts and Notes Payable

Month	Accounts payable	Notes payable	Month	Accounts payable	Notes payable
August			April		
September			May		
October			June		
November			July		
December			August		
January			September		
February			October		
March			November		
			December		

Analysis of Deductions for Losses

	No. of cars used	No. of trips	Under size	Old frost	Scab	Dry rot	Sweat	Frost	Blemish	Wet rot	Shortage	Other causes
Amount of Loss on Refrigerator Cars												
Amount of Loss on Lined Cars												
Amount of Loss on Cars Option 1												
Amount of Loss on Cars Option 2												
Amount of Loss on Cars Option 3												
Amount of Loss on Other Unlined Cars												